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FEB

THE PSYCHIATRIC QUARTERLY

(SUCCESSOR TO THE STATE HOSPITAL QUARTERLY)

The Treatment of Schizophrenia

Physical Features, Administration and Work of the Veterans' Psychiatric Hospital

Sodium Bromide Therapy in Functional and Organic Psychoses

Tryparsamide Treatment of General Paralysis

Tuberculosis as an Etiological Factor in Producing Neuroasthenic Symptoms

Some Laboratory Findings in Epilepsy

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The Influence of General Paralysis on the Epileptic

Fifty Years of Development in the Care of the Insane in New York State, 1878-1928

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THE TREATMENT OF SCHIZOPHRENIA

A Survey of the Literature

BY LELAND E. HINSIE, M. D.,

NEW YORK STATE PSYCHIATRIC INSTITUTE, WARD'S ISLAND, N. Y.

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Not long after Kraepelin attempted to define the mental disorder which he called dementia *præcox* and now more generally known as schizophrenia, there followed not only a general awakening of clinical interests but gradually a more rational therapeutic attitude began to manifest itself in psychiatry. This condition was brought about in a relatively short time following the more or less general adoption of Kraepelin nosology. Indeed, in 1903, that is, within one decade of the first appearance of Kraepelin's classification, Adolf Meyer was already inculcating a hopeful standpoint towards the reaction types included in the dementia *præcox* group. Even now it is only a little over a quarter of a century ago that therapeutic interests began to assume a positive character. Each year since that time inquiries into the various aspects of schizophrenia have taken on an added significance, to the extent that the condition is no longer enshrouded in abject hopelessness, but, on the contrary, is viewed with encouragement. Results that were previously unattainable have cast a favorable ray of hope in the direction of therapy, quite apart from the still obscure etiology. The psychobiological doctrines of Meyer and of Hoch have contributed a means by which something of a positive and favorable nature may be accomplished. A somewhat analogous situation is presented in patients with general paralysis, in that successes of varying grades are encountered under the malarial form of therapy; a certain number of subjects with general paralysis gains states of remission and a certain percentage of schizophrenic individuals are likewise restored to their prepsychotic level of adaptation. Others in both groups are entirely uninfluenced by treatment and between the two extremes there are all gradations of response. It was only a short time ago that the fatalistic attitude towards general paralysis and schizophrenia was rendered untenable. In the latter instance this was accomplished by the removal of the tendency to diagnose cer-

tain patients on a basis of the outcome, whenever there appeared to be an admixture of symptoms. This was especially true when the clinical picture was allied to the manic-depressive or to the schizophrenic group. It is well recognized now that patients with undoubted schizophrenic syndromes may and often do gain states of remission, some of them "spontaneously", others in association with various therapeutic measures. We believe that the term "spontaneous" should be used with caution or should be discarded entirely, when speaking of schizophrenia. Too often it is said that a schizophrenic subject recovered "spontaneously", without an evaluation of the significance of environmental changes. The latter are known to be highly instrumental in the production of a patient's mode of reaction. Indeed, the schizophrenic subject is delicately keyed to his surroundings and alterations therein often provoke decided changes. This is particularly true with respect to the personalities he encounters and we should always be alert to take advantage of this knowledge. Later this topic will be enlarged upon. For the present let us emphasize that when we use the term "spontaneous", at least in this group of patients, we are apt to be shielding ourselves from the lack of a comprehensive envisagement. In other words, we are able under present knowledge to understand sociological factors sufficiently clearly to insure beneficial results to a greater or lesser extent with the application of those factors to our schizophrenic patients.

PROPHYLAXIS

Meyer¹ stressed the opinion that "etiologically the constitutional make-up counts for a great deal, but not in the vague sense of heredity and degeneracy merely. There is much more to be had in the study of deterioration of the habits and undermining of instincts and their somatic components." He pointed out that "therapeutically this way of going at the cases will furnish the best possible perspectives for action." If we have "a knowledge of the working factors in dementia praecox," we are put "into a position of action, of habit-training, and of regulation of mental and physical hygiene . . ." He continued: "The general principle is that many individuals cannot afford to count on unlimited elasticity in the habitual use of certain habits of adjustment, that instincts will be undeter-

mined by persistent misapplication, and the delicate-balance of mental adjustment and of its material substratum must largely depend on a maintenance of sound instinct and reaction type . . . Mind, like every other function, can demoralize and undermine itself and its organ, and the entire biological economy, and to study the laws of the miscarriage of its function and life is one of the conditions for any true advancement in psycho-pathology.” A few years later (1908) Meyer² elaborated his conceptions, showing the effects of an improper mental balance upon the development of dementia *præcox*. He chose to speak of the “direction and balancing of instincts, the shaping of convictions and the adaption of one’s capacity to the many possibilities and impossibilities presenting themselves in real life,” as these features presented themselves during the years of school life. Meyer’s most cogent weapon comprised a knowledge of the simple facts, or as he put it, “the plain *facts* of modern psychopathology.” He did not search the obscure recesses or set up hypothesis of alleged brain disturbances, but preferred to initiate a prophylactic regime with the palpable, obvious and understandable situations that were contributing to the mental imbalance of the school child. “We are *beginning*”, he continued, “to consider as legitimate material of science what common sense has taught us and the teacher has long used in practice.” We should like to stress the efficacy of Meyer’s doctrine in the therapeutic approach to schizophrenia. In our experience there is nothing more valuable for the correction of faulty attitudes in adolescents who are dominantly schizoid than a proper evaluation of the common everyday experiences of the individual. It is not at all necessary or advisable to go beyond that in the majority of instances. There is little to baffle us when a son withdraws from reality for the purpose of coddling not only his own infantility, but also that of an indulgent mother, who out of faulty training herself is as much conditioned to the son as he is to her. In a surprisingly large number of cases the termination of such an unhealthy situation has checked the progress of what appeared to be incipient schizophrenia.

One should not construe any of the above remarks as constituting the final solution of the problem of schizophrenia. Far from it. But, this method of approach is at times undoubtedly of vast importance in the prevention of severe schizophrenic states; it often

at least delays for long periods (years) the onset of a morbid condition; and finally, in advanced cases it serves to alleviate the conflicts.

Meyer's dictum to "do something" has been largely instrumental in the molding of concrete programs for the management of schizophrenic subjects. He constantly urged others to be optimistic. In discussing the "Arrest of Development in Adolescence"³ (1903) he emphasized that a therapeutic attitude should be taken with respect to the problems of adolescence which seemed to develop from adolescence itself and which therefore were "still open to influence." He added: "Even here part of the trouble is, as it were, a simple perversion or stunting of growth of essential components of our personality. But quite a few causes seem to be avoidable, which we can do something to forstall . . . The types of adolescent deterioration can very largely be traced to disharmonies of thought, of habits, and of interests which bring about a stunting in one direction or another."

Meyer's contentions have been drawn upon at length because they are helpful and hopeful, because they show the way to sound, practical aids in the correction of many of the prodromal manifestations of schizophrenic symptoms and because they have been fortified by empirical data. The sooner we get away from the categorical notion that dementia *præcox* connotes "dementia", the more wholesome will our attitude be. This truism is strikingly called to our attention in the results attained in the treatment of patients with incipient dementia *præcox*. Whatever may be said of the term "schizophrenia", it at least came into usage when the attitude towards the mental state was beginning to assume a favorable color, and for that reason it is not invested with the idea of fatalism and hopelessness. To be sure, the nomenclature itself is not at fault, but its symbolic representation may well be regarded as significant.

PSYCHOTHERAPY

Hoch⁴ spoke in a vein similar to that of Meyer. Under the influence of psychoanalytic conceptions, he stressed the likenesses between the neuroses and dementia *præcox*, asking "whether the dissimilarities are so great that we have to disregard this parallel.

ism and take refuge in a totally different kind of interpretation of the disorder." He pointed out, as Freud, Jung and Bleuler had previously done, that the symptoms of dementia *præcox* were not to be regarded as scattered and bizarre productions, but rather as representations of a definite meaning to the individual. Moreover, "the meaning is sometimes more transparent in dementia *præcox* than in the neuroses." Hoch maintained that the precipitating factors must be known "in their setting, their background, their relationship to various trends in the patient's mind. Or, we can also express it that we must know the internal development of peculiar attitudes in the patient's mind, which determine the reaction.

. . . Whatever we may think of certain formulations of it, we must admit that psychoanalysis is the first systematic attempt to deal with the internal history, or the development of mental attitudes and reactions. . . ." In the same communication Hoch states that "both the pathological personality, with its milder manifestations and the psychosis, with its more complete break of compensation, may be looked upon as determined by constitutional factors, in the sense that when demands for adaptation arise, the individual is found unfit to meet them, unfit through inherent weakness, but also at times, to quite an extent, through false attitudes which have developed through lack of proper training. In this last direction lies our hope for modifying these defects."

Probably the most enlightening and comprehensive contribution to the means by which the problems of dementia *præcox* may be approached is that by Campbell.⁵ He indicates in a concrete manner the various methods of approach, depending upon the stage of the mental disease. He encourages intensive study of the constitutional traits of the patient, of his habits and ideals, emphasizing that "the special treatment of a case, as opposed to the general hygiene management, consists in the interpretation of the individual symptoms, in their resolution into component forces, and in dealing with these component forces in a healthy manner." Campbell proceeds to outline definite procedures with respect to therapy. He assumes a broad psycho-biological approach. The contribution is too rich in details to warrant a thorough review here; those interested may profit much by a careful study of Campbell's suggestions. Among other significant remarks he expresses his opinion on the

efficacy of the application of analytical doctrines. "Analysis may remove or modify the force of certain physical symptoms; it may help to modify the patient's attitude towards the persons of the environment; it may help to modify the relation of the patient to near relatives; it may reveal to the patient the roots of jealousies, antipathies, infatuation, etc., the origin of certain enthusiasms (esthetic, religious) . . . Some patients have a rather surprising insight into the general substitutive meaning of their disorder." In an earlier communication Campbell held the opinion that "psychoanalysis is no key to the psychoses, but it is a ferment whose influence cannot be over-estimated." He regarded psychoanalysis as an auxiliary step in the individual's re-education.

Freud has expressed himself as unfavorably inclined to recommend the application of his system in the treatment of schizophrenia. He groups this mental disease with the narcissistic neuroses, a class that ordinarily, he thinks, is not responsive to the psychoanalytic form of treatment. Other investigators are not as categorical in this respect as Freud is; they feel that schizophrenic patients show a wide divergence in their syndromes, that some are capable of understanding the nature of their conflicts when it is shown to them and they thereby gain an insight that enables them to re-establish themselves on their prepsychotic level. Kirby,⁶ for instance, characterized Freud's attitude toward the analytic treatment of schizophrenia as one that fosters too much pessimism because of its all-inclusiveness. Psychoanalysis may be detrimental to some patients of the narcissistic group, but certainly not to all. "Our experience with this group has been decidedly encouraging even in hospital cases when a modified form of analysis was used. We have, in fact, been surprised at the marked improvement and social adjustment attained by many patients in whom fairly deep regressive elements were present. Cases we have followed now for several years remain well." Hinsie⁷ has reported on some of the cases referred to by Kirby and in addition he suggested that, as a preliminary step towards making an effort to single out syndromes that might be handled effectively by psychoanalysis, one might hope for therapeutic efficacy among the patients who exhibit a periodicity in their psychosis and who express paranoid delusions of omnipotence (i. e. Christ or Christ-like importance). Maeder⁸ reported

considerable success in the psychoanalytic treatment of two cases of the paranoid form of schizophrenia. One of the most exhaustive contributions was made by Kempf,⁹ who claimed that "the psychoanalytic treatment of repressed, perniciously regressive, dissociated personalities produces astonishingly reconstructive results, when an altruistic transference can be maintained and the wish for insight is spontaneous, that is, comes from the patient. This requires upon the part of the physician sincerity, insight, technical skill, self-control and the capacity to win confidence and control transfer." Both Kempf and Hinsie make suggestions as to how to gain and maintain the transference during the application of psychoanalytic treatment. In order to circumvent "the protective mechanism that lies within every narcissist" Clark¹⁰ has devised what he calls the "phantasy method" of analyzing narcissistic neuroses. He describes the procedure as follows: "The patient traces step by step the successive orders of repressions, finally reconstructing a true picture of the dilemma and he will act upon this new insight just as soon as it is deep enough to release the repressions and fixations." Clark claims that "the displaced primary personality of the narcissist is enabled to gain the power of insight into the intricate pattern of the narcissism, which has been built up from the identification with the mother." The physical situation in which the patient is analyzed is the same as in ordinary analysis. The patient, in a reclining position, closes his eyes and faces away from the analyst. He is then asked "to imagine or phantasy the subjective feelings, attitudes and behaviour of an infant preferably from the first day of birth." There are then revealed "the more definite narcissistic fixations upon oral, anal and urinary eroticisms, the direct outgrowths of the nursing act and the weaning trauma." The final result is the restoration of the birth and weaning process and their libidinal significances. The patient keeps daily notes and is given the first chance in the interpretation of his phantasies. In the latter procedure it is not claimed by Clark that the phantasied material is a facsimile of actual memories of infantile experiences, but the phantasies are considered to be "psychologically true." To date Clark's method has not been given any extensive trial by others; nor has Clark published further observations. He does, however, teach an encouraging lesson, namely, that one may estab-

lish rapport with patients who were formerly neglected because the means for gaining contacts with the patient were not known.

Coriat¹¹ observed that marked improvement "may be noted in early cases through a complete psychoanalysis, which procedure lays bare the unconscious disturbing complexes . . . I feel that in the future, in the early cases, at least by means of the data furnished through psychoanalysis, we may be able to devise a rational psychotherapy for the disorder, the same as has been done for hysteria or for certain paranoic states, particularly types of limited delusion formation." In a later communication Coriat claimed "that a great deal may be expected from treatment based on psychological principles, in the sense of readjustment and re-education, an analysis of the symptoms and finally a thorough psychoanalysis of the entire content of the psychosis. Psychoanalysis may cure the mild or early cases of dementia praecox, while in the more severe types the analysis may relieve the symptoms to a certain extent or may provide useful hints to intelligently readjust and regulate the life interests of the patient. I feel that every case of dementia praecox, especially the mild cases or in the early stages, should be given the benefit of a psychoanalysis."

Lazell¹² outlined a plan for the group treatment of dementia praecox patients, selecting "only such patients as presented the same fundamental problem and were solving their difficulties in the same manner." He delivered a series of lectures to them, explaining the significance of various psychological factors, such as the fear of death, the nature of conflicts, regression, homo-sexuality, the meaning of hallucinations, etc. Lazell did not regard his patients as recovered, "but all left the hospital later as social recoveries."

Kläsi¹³ feels that the first requirement is a thorough examination of the patient with the object of finding out, if possible, what the opportunities are for spontaneous recovery, that is, for the patient to solve the conflicts himself in a satisfactory manner. In some cases there is a definite tendency on the part of the patient to suppress his symptoms. When this inclination is present, it can be aided greatly by intense application to industrial therapy. According to Kläsi there is another type of patient who, in trying to avoid the manifestations of his symptoms, may be favorably encouraged by the institution of rigid and impressive medical procedures, such

as diet, electrotherapy, hydrotherapy, etc. At the same time the patient is confined to an active medical service, so that he may be impressed as thoroughly as possible. Kläsi recognizes the nature of the subterfuge, and employs the various procedures for the purpose of gaining the confidence of the patient as a preliminary step to psychotherapy. There is still another class of schizophrenic patients that exhibits in the main symptoms that are common to hysteria. With them, Kläsi thinks, psychoanalysis may avail to an appreciable extent. Kläsi's attitude is of special importance because it is not limited to any one form of therapy in schizophrenia; on the contrary, he studies each case independently and maps out a method of approach suitable to the case at hand. He employs not only the procedures outlined in the foregoing, but keeps in mind such disposition as colonization of patients, or "farming" them out; and he has reported successes in the use of prolonged narcosis under somnifen. Indeed Kläsi's approach to the problems in schizophrenia is appealing, because it is not based upon any rigid, unitary conception that all patients with this mental disease are alike.

Kogerer¹⁴ is optimistic about the treatment of schizophrenic patients in an out-patient clinic, but only to the extent that many patients may be prevented from developing more intense manifestations of their symptomatology. His method is to teach the patient to keep his symptoms out of the public view and to handle them in such a way that they do not occasion conflicts with others. He observes that paranoid patients are often inclined to protect themselves by dissimulation, a defense that Kogerer attempts to fortify, thus enabling the patient to get along more harmoniously with himself as well as with others.

Wholey¹⁵ presented in detail the result of the psychoanalytic approach to a patient with the paranoid form of schizophrenia. He made the interesting differentiation that some paranoid subjects attempt to solve their difficulties on the basis of a reconstructed world. In the case at hand the former situation prevailed and was encouragingly influenced by psychoanalysis. Wholey said: "The clear hysteriform and psychogenic groundwork out of which this psychosis seems to have developed, and the healthy level at which affectivity has been maintained, warrants one in assuming

that such a patient may perhaps find a permanent psychologic level upon which to meet life, possibly even more adequately than that upon which she met it previous to her psychosis."

Bertschinger¹⁶ advanced the suggestion that there were three ways by which a patient might be helped to regain control of his subconscious tendencies. Firstly, by correction of the delusions. He said he had two patients, one of whom was improved and the second was cured, when he explained to them the origin of their recently acquired complexes. Bertschinger disclaimed any curative value to his method, but felt that there was something in the patients that made them readily amenable to his explanations. Secondly, by resymbolization. "Much more interesting and also more frequent are the cases in which improvement or cure is induced by gradual alteration of the delusions." In these instances transfer- ence plays a prominent part, the patients adjust themselves "like healthy employees" to hospital life, but as soon as their discharge is considered, the old symptoms reappear. They have what Bertschinger calls "a foundling-asylum complex." Thirdly, evasion of the complex. Usually under these circumstances there is a state of confusion in which the patient lives out his underlying desires. When the state of confusion has terminated, the world seems new to the patient and he may take one of two courses—either go on to recovery or adapt himself to the period of existence antedating the onset of his illness.

Some investigators consider that the application of psychoanalysis to patients with schizophrenia is a harmful procedure. No greater voice in respect to this attitude could be heard than that of the founder of the system—Freud. His opinion should make us doubly wary of advancing a contrary or a qualified stand unless the reasons for so doing are strongly fortified by clinical evidence.

There is little to be found in literature, aside from an impressionistic comment here and there, that psychoanalysis has a detrimental influence in the management of schizophrenic patients. Trämer¹⁷ cites the case of a latent schizophrenic man, who through psychoanalysis was rendered a manifest case. Trämer believes that when the psychological splitting is pronounced psychoanalysis is contra-indicated. Strasser¹⁸ is of the opinion that "one cannot emphasize too strongly the danger and falsity of psychoanalysis in the treat-

ment of dementia praecox. His chaotic disorganized thinking is by analysis only burdened with new disorganization . . ." Culpin¹⁹ holds the view that "as a therapeutic measure little is at the present claimed for it" (psychoanalytic treatment of schizophrenia). "In regard to dementia praecox . . . analysis is impossible when once the disease can be diagnosed with certainty, but it has in a few cases proved curative when the diagnosis seemed only probable."

One gathers from the observations presented thus far that patients with schizophrenia form a wide and varied group and that a single therapeutic approach is ill-advised. The group is entirely too complex in its symptomatology to warrant any but an individualistic method of therapy, depending upon the particular circumstances surrounding the patient and the means by which he attempts to handle his problems. Sometimes psychoanalysis alone may be sufficient to induce improvement; sometimes re-education may attain the same results; still again, removal from the usual environment to the less stressful hospital life may help to achieve a more peaceful adjustment. A combination of the three may be the procedure of choice; as a rule that is so. Many of the investigators are convinced that something of a more or less favorable nature may be accomplished and that there is a parallelism between the time treatment is instituted and the results. Thus far, of course, only the psychotherapeutic angle has been presented. In the subsequent pages the opinions of others with respect to treatment primarily intended to alter the physical side will be considered.

BIOLOGICAL PREPARATIONS

A few leading principles have guided investigators to seek a remedy that might prove of value in the treatment of schizophrenia. Among these is the consideration that the endocrine system is in part at least responsible for some of the factors associated with the clinical picture. In the majority of clinics, however, endocrine therapy has been reported as ineffective. Kræpelin and Bleuler, for example, have employed this form of therapy in an extensive and intensive manner without the production of any clinical changes, save in those instances in which organotherapy has proved of value independent of the presence of a mental disturbance.

Among the more promising communications is that of Kauders,²⁰

who, believing that the germinal glands are in a state of dysfunction in schizophrenia, has used the products "Testosan"** and "Ovosan" with favorable results. The claim is made that these preparations are 15 to 20 times more potent than former glandular preparations. Kauders stresses the point that heretofore the dosage has been too small to induce results. Under the use of Testosan Kauders reported that in two patients with schizophrenia extensive remissions were produced, one in a patient under observation for five years and another for seven years. Kauders concluded, as a result of a large experience, that organotherapy with the glands of reproduction is to be undertaken with a view to success only when it is continued over a period of months; occasionally it must be given throughout the patient's adulthood, as a substitutive form of treatment. In his experimental work Kauders chose long-standing, chronic patients, in order to obviate the occurrence of spontaneous remission to complicate the interpretation of the results. Kauders reported noteworthy therapeutic results in several other patients. A paranoid schizophrenic patient, whose condition had remained stationary for three years, in spite of all therapeutic efforts, responded promptly to the administration of Testosan and attained a state of complete remission. Another patient, catatonic for two years, reacted favorably under this form of treatment. Kauders acknowledged complete failure in two patients. He advises that his results are to be regarded with reservations, since the number of patients treated is small and the time elapsing since treatment began is short.

Stanley²¹ carried out testicular implantation one thousand times in the treatment of 656 human subjects. Among the 656 individuals there were eight patients with schizophrenia, of which seven were regarded as not having been benefited, while one was favorably influenced.

As regards ovarian preparations the results are also equivocal. Sippel²² recorded good results in three early cases of schizophrenia by ovarian transplantation. Each of the patients exhibited a mild grade of hypogenitalism. Climenko²³ administered corpus luteum to schizophrenic patients early in the course of their illness; he concluded that the substance was inert in these cases.

* Testosan and Testosanforte, "Sanabo", described as containing the therapeutic principles of the male testicles in unchanged form. Ovosan, "Sanalo", is similarly described as fresh ovarian substance.

As regards the effect of thyroid administration in schizophrenic patients little of a beneficial nature has as yet been incurred. Berkeley and Follis,²⁴ who reported their observations on the influence of thyroideectomy and thyrolecithin in the treatment of catatonia, concluded that, on account of the small number thus far thyroidectomized, they were not in a position to give any conclusions of a definite character. They suggested that partial ablation of the gland might be a factor in the return of the reflexes to a natural state, in the decrease of the mechanical muscular irritability, as well as of the dermatographia, the loss of pigmentation and of the doughy, pasty character of the skin. They felt also that the operation might in some way be associated with the return to the normal both of the mental and physical state. They reported the results of thyroideectomy in eight successive cases of catatonia, claiming that it would be exceedingly difficult to find similar beneficial results under any other form of treatment. They were of the opinion that thyrolecithin gave constant results only in the prodromal state, adding, "it probably acts by increasing constructive metabolism, but may also act by nullifying the thyroid hormone, just as iodine increases the activities."

Fay²⁵ supported Kræpelin's original hypothesis to the effect that, in spite of the negative results observed in the glandular therapy of schizophrenic subjects, there seemed to be some connection between dementia praecox and endocrine disorders. In his experimental work Fay selected only those patients who had recognizable endocrine disorders. No selection was made on a basis of mental disorder." Fay's contribution is well worth reading in its entirety; it is replete with clinical data. Of the 22 cases studied by him 20 were apparently well-defined patients with schizophrenia; the remaining 2 had schizophrenic features. The outstanding finding was submyxedema (12 cases); one of the 12 also had hypoadrenia. Hypoadrenia alone was observed in 2 cases; hyperthyroidism occurred in 4 cases; hyperthyroidism and dyspituitarism in 1 case. Before the institution of glandular therapy, "nearly every patient on the ward seemed to have improved to some extent," with the exception of one case. Fay was unable to decide the responsibility for the betterment and suggested that there may have been a combination of factors involved—the unusually cheerful ward, the nurses' care,

the occupational therapist and the added attention given to the patients.

Fay continued: "Feeding dessicated (thyroid) glands stimulated the patient in almost every case. In one or two instances this stimulation seemed to increase their troubles . . . Some gave the impression of being forced to extrovert and to notice the environment in spite of themselves; others seemed to develop a spontaneous normal interest in their surroundings." The effects, however, of glandular therapy were temporary. Fay felt "the treatment may possibly be of great value in breaking into the so-called vicious cycle of mental disease, particularly in the early stages. A combination of thyroid stimulation and psychoanalysis might be an excellent method of attacking incipient schizophrenia." Indeed, as a result of both forms of therapy among his cases, Fay concluded that "no cure or great improvement can be claimed as due mainly to psychoanalysis in these 22 cases."

Hübner²⁶ maintained that, though certain clinical facts point to an insufficiency of the thyroid gland in dementia praecox, the results of treatment do not yet confirm the clinical observations. He treated 10 cases with antithyreodin (Möbius) by mouth, administering from one to three tablets a day. He observed improvement in some of the patients and in others an alteration of their clinical condition. But, as he said, he secured the same results with thyroid tablets. He concluded that thyroid did not exert a specific action in these patients.

Hudovernig²⁷ spoke of a certain group of schizophrenic patients, who exhibited periodic attacks of mental disorder and who were in a measure similar to those in the manic-depressive class. He had occasion to observe three such patients; each one in the interval between attacks showed symptoms of thyroid dysfunction, which was treated by thyroid extract combined with gonadal substance. Hudovernig prefers the glandular preparations of the firm of G. Richter, because he believes their products are more potent. Like Kauders, he considers that heretofore the dosage has been too small to elicit favorable results. Hudovernig reinforced the action of the glandular extracts by the injection of foreign proteins, using 5-10 cc. of milk every five days. By the use of the latter he was able to induce a temperature of at least 104° F. The earlier the

patient is treated the better the results are apt to be. He did not want to speak of a cure in any of the three cases, but preferred to state that they had attained *restitutio ad integrum*, a state that they would not have achieved in the absence of such combined therapy.

The use of extracts of the pituitary gland has been mentioned occasionally and as a rule the results are negative. In a few instances the thymus gland has played a part in the treatment of schizophrenia. Ludlum and Corson-White²⁸ reported excellent results in the administration of thymus gland extract in three of the six patients. The three who were not especially benefited were old patients and much demented. They claimed that when a patient presented the Abderhalden reaction to testicle and pancreas, namely, leucopenia, increased blood pressure, a feeble and rapid pulse, elevation of temperature, exaggerated deep reflexes, diminished cutaneous reflexes, increased electrical reactions of muscles, tremor of tongue and extremities, an apparently good state of nutrition, the Westphal-Pilez pupillary sign, increased mechanical irritability of the muscles and dermatographia—when a patient presents these reactions and is treated early in the course of his mental disease, a very definite result can be obtained.

Sajous²⁹ felt that thymic function was associated with schizophrenia, in that the thymus supplies nucleins "to the organ of mind." He claimed that there was a marked reduction of the lymphocytes in this disease and that the therapeutic use of thymus gland corrects the reduction.

Barker³⁰ devotes about one page of his five volumes (4,000 pages, more or less) on endocrinology to the consideration of organotherapy in mental diseases. It is mentioned that thyroid "may be useful and should be tried in cases of insanity of various types, if the patients show evidence of hypothyroidism."

Bently³¹ recorded the summaries of three cases of dementia praecox treated by hormotone.** Two of the patients were discharged as recovered; the third improved. The younger patients responded to this form of therapy more effectively than the older ones did.

There are several other references to the value of endocrine therapy in the literature, but they are either not of promising character or they are too ill-defined to warrant repetition here. In a review of

* Hormotone (G. W. Carnick Co.). See Reports Council Phar. and Chem. Jour. Am. Med. Assoc., 1925, p. 20.

the literature on organotherapy in schizophrenia one feels that in a few instances encouraging results have been obtained, but that the total number of patients treated does not yet permit one to state with a feeling of security that the products on the market have any uniform value.

PHARMACOTHERAPY

Prolonged Narcosis. For a short time prolonged narcosis occupied a position of pre-eminence in the therapeusis of schizophrenia, but within recent times the procedure seems to have been less frequently employed. Somnifen (diethyl-dipropenyl-barbiturate of diethylamine)³²⁻⁴⁹ was the drug of choice, but opinions varied so vividly as to the propriety of its administration that it is being used, if at all, with extreme caution. It was claimed that, particularly in states of schizophrenic excitement, the induction of prolonged narcosis* proved highly beneficial in quieting the excitement and also in producing in some cases a remission of the symptoms. Many investigators, however, soon turned their attention to the drug itself, rather than to the principle, because of the harmful effects that were observed in the use of somnifen. The drug has been rejected by several because of its unreliability of action and its harmfulness, it being claimed its effect on the heart is sometimes extremely severe. The mortality rate in a large series of cases was 6 per cent. Müller,⁵⁰ who presented an excellent survey of the literature on the use of somnifen, showed that among 268 schizophrenic patients treated by fifteen investigators, 24 patients (9 per cent) were reported as much improved, 70 patients (26 per cent) were improved, 159 patients (59 per cent) were uninfluenced, and 15 patients (6 per cent) died.

Müller, pointing out that prolonged narcosis and somnifen are not inseparably linked, attempted to answer two questions, first the efficacy of prolonged narcosis and, second, the suitability of somnifen as the therapeutic agent. Prolonged narcosis as a principle is valuable, according to Müller, for the reduction of marked states of excitement, but in cases of long standing the results are less likely to be effective. Indeed, it is not always possible to gauge the influence of extended narcosis, because early cases of schizophrenia vary

* Technic: 0.001 scopolamine and 0.01 morphine subcutaneously. A half hour after sleep is produced inject intravenously 4 cc. somnifen. Each morning and evening for from 5-7 days from one-half to one ampoule is administered. The course may be repeated if necessary.

to an appreciable extent in their symptomatology. Under present knowledge it is claimed that those schizophrenic patients who exhibit periodicity in their reactions are the ones in whom the better results are to be expected.

At this phase we should like to digress for a moment to point out that in the majority of instances in which improvement is said to have taken place in schizophrenia, quite aside from the matter of the agent associated with the improvement, investigators are prone to emphasize that the patients who exhibit alternately states of relapse and remission respond most encouragingly to whatever the treatment may be. Under these circumstances it is decidedly hazardous to express a definite opinion as to the merits of the therapeutic agent involved. It would aid us vastly, if we possessed any criterion by which we could more or less accurately offer a prognosis in a given case. With the advance in our knowledge of schizophrenia we are becoming increasingly aware of the fact that, particularly when patients are seen early in the course of their illness, we should safeguard our opinion as to the outcome by stating that one of several courses is possible—remission of greater or lesser extent in point of time and of symptoms, a stationary state, a slight improvement, or a regression to one of several levels.

To return to the opinions regarding somnifen, it may be stated that the claims as to the influence of the drug on states of negativism vary; some (Kläsi) hold that such conditions are appreciably benefited, while others (Mollenhoff, Weitholt) feel that nothing of importance may be expected. As a rule those who object to the employment of somnifen do so because it is considered to be too dangerous for ordinary use; they consider however, that prolonged narcosis is a valuable procedure and hope that a means may be devised by which the procedure may be safely carried out.

Efforts to induce extended narcosis with other drugs have been made. Oppler⁵¹ reported his results in the case of trional (sulphonethylmethane) in 12 cases of catatonia in their first attacks. Each was given as much as 20 grains a day for from five to eight days. In only six patients, however, was he able to induce sleep; the remaining six patients were too resistive to be given a sufficient quantity. Three of the satisfactorily treated patients attained quiet states for a long period and three improved sufficiently to leave the

hospital. Oppler feels that trional is a safe drug with which to induce protracted narcosis.

Wright⁵² reported that resistive, highly negativistic and disturbed patients were rendered cooperative, and were thereby in a much better condition for the introduction of further therapeutic measures (e. g. occupational therapy) by the use over a considerable period of sodium bromide to the point of producing a state of drowsiness. He said: "When one regards the drug as an aid to therapy rather than as a panacea, a better appreciation of its value will be had."

Artificial Leucocytosis. In 1907 Lundvall⁵³ reported that under ordinary circumstances in schizophrenia there is no decrease in the erythrocytes or increase in the leucocytes, but that there are what he termed "blood-crises," which make their appearance during periodic states of excitement. In the crises the number of red blood corpuscles is reduced and there is an increase in the white blood cells. In his search for a drug that would promote leucocytosis Lundvall finally selected sodium nucleate, but because the human organism generally becomes immune to the drug after a few injections, he incorporated other constituents to insure the desired results. Consequently he gave the following formula as the most efficacious:

Rx

Quassinisieci depurati (Merck)	Gm.	40.0
Sodii nucleatis	Gm.	200.0
Acidi arsenosi	Gm.	0.1
Aquae destillatae—q. s. ad.....	cc.	1000.0

From 2-15 cc. of the above solution are injected hypodermically twice a day. Some hours after the injection there is a strong elevation of temperature, that usually recedes rapidly. Lundvall does not take into consideration the possible effects of the rise of temperature, other than to show that ordinarily a leucocytosis runs parallel with it. Generally, however, the leucocytosis sets in before the temperature rises and may continue long after the temperature has subsided. At times there is a leucocytosis without a rise in temperature. There is no rigid rule as to the time of subsequent injections, that being determined by the recession of the leucocytosis, which varies in individual cases. The object of the treatment

is to sustain by the smallest possible dosage a leucocytosis for as long a period as is possible. During the treatment the patient is put on a highly nutritious diet. The contraindications for the employment of this form of therapy are cardiac and pulmonary diseases.

Of 25 schizophrenic patients treated in the above manner by Lundvall, 11 were discharged from the hospital as clinically cured; 2 were regarded as "not quite cured, but able to work"; 5 patients improved, and 7 remained uncured. Among his group were many old and helpless patients. Itten,⁵⁴ in a series of 9 "serious" cases treated by the Lundvall method, observed temporary improvement in 3. Among 14 patients, the majority of whom were old and demented, Donath⁵⁵ reported that 3 were cured and 5 were improved. He claimed that 3 others attained states of temporary improvement while the remaining 3 were unaffected. Read⁵⁶ recorded his results in the treatment of 10 unselected patients, concluding that "in certain cases it seemed to precipitate an improvement which very possibly might have occurred later on without treatment." Keatly and Bobbitt⁵⁷ "were impressed by the absolute lack of mental improvement" in 4 of 5 patients, the fifth having improved a little for a short period. Kielholz⁵⁸ modified the procedure of Lundvall to the extent of employing a 10 per cent solution of sodium chloride. He began treatment with an injection of the solution the equivalent of 0.5 — 1.0 gm., gave injections at 4-5 day intervals until 4.0 — 5.0 gm. were administered in a single dose. In all from 6 to 12 injections were made, depending upon the temperature and leucocytosis. Kielholz summarized the effects in 17 schizophrenic patients. Severe cases of the catatonic type, of more than two years' duration, were only temporarily benefited (as in 2 cases) or were not influenced at all (as in 2 cases). Of 9 cases of the catatonic type of less than two years' duration, 4 were discharged as capable of working, shorter remissions were observed in 2 cases and an extensive improvement in 1. Two were uninfluenced. One patient of the paranoid type achieved sufficient improvement to permit his discharge for a short time. Two patients of the hebephrenic form attained states of remission and one improved markedly and was able to work.

Pharmacotherapy-Miscellaneous. Acting on the advice of

Kræpelin to the effect that some patients who refuse food ate when infused with a solution of sodium chloride, Ishida⁵⁹ carried out the procedure in 10 patients with schizophrenia. He injected intravenously and at one time from 300-1000 cc. of a 0.9 per cent solution of sodium chloride. In almost half of the cases he observed an awakening of interest in work directly following the treatment. "This has been especially observed," he continued, in cases having no acute symptoms. Remissions have occurred in four cases, the longest duration being four months." He was "led to infer that common salt in the blood of catatonic patients as well as of those with other clinical forms of dementia praecox might be deficient and that the infusion of the physiological salt solution would meet this deficiency, though the results might be but transitory." In almost every case sedatives or hypnotics were used both before and after the infusion, "their employment being necessary not only because of the conditions brought about by the dementia, but because of the symptoms directly due to the infusion." Guthrie⁶⁰ treated 15 schizophrenic patients by the same means and reported that "it seems we have had better results than Ishida." Holmes⁶¹ claimed that of 18 patients so treated 2 recovered. Miller,⁶² using the same principle, treated 10 patients. As an initial dose he administered 3 cc. per kilogram of body-weight and each succeeding dose was increased by 30 cc. The injections were given at seven-day intervals for a period of four and one-half months. "Seven of the 10 patients showed no mental improvement; of the remaining three, two brightened up slightly, the third brightened up enough to work. Eight of the 10 patients gained in weight from 2 to 15 pounds."

Cocain hydrochloride in doses of 0.025 — 0.05 grams was employed by Berger⁶³ in eight cases of the catatonic form of schizophrenia. He concluded that the method was without value.

Reiter⁶⁴ reported as generally successful the use of metal salts in the treatment of schizophrenia. He gave injections of the salts of manganese, cadmium and cesium. When this treatment was ineffective, it was supplemented by organotherapy, vaccine therapy, or by starvation. It is not known that his investigations have been repeated by others. Likewise there is insufficient evidence at the present time to warrant an opinion of merit as to the influence of other types of drug therapy, such as the "strychnotonon* cure" of

* Strychnotonon is a drug containing arsotin, strychnine hydrochloride and glycerophosphate.

Bakody,⁶⁵ the intraspinal administration of magnesium sulphate (Bellasari⁶⁶), luminal therapy (Salerni⁶⁷), and arsenic (Drossers⁶⁸).

FEVER THERAPY

Fever therapy has not been very extensively employed in the treatment of schizophrenia. Friedländer⁶⁹ observed marked improvement in a paranoid schizophrenic patient of long standing under the use of tuberculin. With the same preparation Treiber⁷⁰ treated 11 schizophrenic patients, reporting that none was favorably influenced.

Menninger⁷¹ induced fever through the intravenous injection of typhoid vaccine twice a week, to the total of 30 febrile attacks. He allowed a rest period of two weeks between each series of ten attacks. Of 33 schizophrenic patients treated with this technic 21 were said to have been favorably influenced. In a later communication Menninger reported the results in 20 other cases as follows: 9 attained a state of remission, 2 improved, 3 remained unchanged and 6 progressed to a phase of deterioration. The remissions were described as full, complete. As a rule the patients who were classed as "improved" relapsed into the condition that prevailed prior to the introduction of fever therapy. Many of the patients who attained complete remission later relapsed. Menninger believes that the value of the form of treatment as carried on by him is as problematical now as it was early in the institution of the method. And he opens to serious questioning whether the fever therapy produced any better results than might have been obtained in the absence of such therapy. He ventured the suggestion that the *modus operandi* comprised the inducement of a stupor state in the patient, a state that is often conducive to improvement independent of the factor involved in the creation of the stuporous condition. Menninger combined organotherapy with the fever therapy, having administered Ovosan to women and Testosan to men.

Raphael and Gregg⁷² gave intravenous injections of typhoid vaccine to seven male patients of the schizophrenic type. They allowed their patients to have two courses, the first of six injections, the second of four injections, the interval between the two series being almost three weeks. The individual injections were made at intervals of from two to five days. The initial dose was 500 million

killed bacilli and the dosage was increased eventually to one billion. They concluded as follows: "Psychiatrically, there was absolutely no evidence indicative of remission or even transitory improvement, although, in certain cases, there was noted for several days, towards the end of the first course, a certain cheerfulness and good humor which might possibly be construed as approximating the euphoria of the second or positive phase, more or less characteristically noted by Petersen, as following the administration of non-specific protein."

Templeton⁷³ treated 20 cases of schizophrenia with artificially inoculated malaria of the benign form. He observed "a complete return to normal" in the majority of patients during and for a short time after the course of malarial therapy; but, at the end of two months "there were few who had not materially lapsed." He concluded that the results of this form of treatment in schizophrenia were of no lasting benefit.

Hinsie⁷⁴ reported that among 13 selected schizophrenic patients of the hebephrenic type, who were subjected to the same technic of malarial therapy that had been followed in patients with general paralysis, there were no permanent beneficial results in the general clinical picture in any of them. On the contrary, the ill effects were outstanding. The clinical condition in two patients was rendered worse and two others died.

Aguglia and D'Abundo⁷⁵ apparently treated several schizophrenic patients with benign malaria, but they were in a position to report on only one—a catatonic patient, who attained a state of remission about a week after the termination of treatment.

ASEPTIC MENINGITIS

Acting on the probability that in schizophrenia the choroid plexus might be involved to the extent of interference "with normal chemotaxis and that, perchance, dementia praecox might prove to be a food-chemico deprivation, rather than a toxic destructive process," Carroll⁷⁶ introduced inactivated horse serum into the sub-arachnoid space through a lumbar puncture. Twenty-five cc. of cerebrospinal fluid were withdrawn and an equal amount of horse serum injected. His reports dealt with the results attained in five patients, each of whom improved under this form of treatment. "A minimum of

two, a maximum of five injections have succeeded in producing either temporary or permanent lucidity in every dementia *præcox* case thus treated." In a later communication Carroll⁷⁷ and his collaborators reported "that the mental condition of 66 per cent of cases of dementia *præcox* so treated show improvement which has lasted from 2 to 11 months, several enjoying remissions. Insight is often gained." Barr and Berry⁷⁸ who followed up many of the patients reported on in the foregoing concluded that they observed "mental improvement of varying degree in a large percentage of cases . . . Younger cases are more responsive and their improvement more lasting." They pointed out that "certain cases are unsuited; those over 45; those having tuberculosis; those having other systemic diseases, as arteriosclerosis, cardio-renal disease; general adenopathy, persistent thymus, etc."

SEROTHERAPY

On the assumption that the injection of normal human serum might produce an antitoxin or might in some other way give rise to a "defensive ferment," Jacobi⁷⁹ treated 10 patients of the schizophrenic form over a period of three months. From 200-250 cc. of blood was withdrawn under sterile conditions from patients with hysteria. The blood was centrifugalized and partly inactivated by heating to 56° C. The latter step was subsequently regarded as unnecessary. Each patient received an intravenous injection of from 50-70 cc. of the serum at intervals of eight days. Ordinarily the temperature of the recipient does not exhibit any appreciable rise. Five of the patients were classed as hebephrenic and five as catatonic. No conspicuous improvement was seen in the hebephrenic group, save a slight transitory betterment during the course of the treatment. There were, however, distinct changes in the catatonic patients, in that two exhibited a decided improvement and in a third there was a questionable improvement in the clinical picture. Two patients remained unaffected. Jacobi does not feel in a position to claim any direct relationship between the serum injections and the clinical improvement, although he suggests that such a relationship might exist in view of the closeness of the two.

Josephy⁸⁰ briefly communicated his observations on the treatment of five schizophrenic patients by the intramuscular injection

of the patient's own blood. He regarded the treatment as highly beneficial, three of the five patients, treated early in the course of their illness, having responded in a favorable manner from three to five days after the injections had been given.

Stoker and Vasilu,⁸¹ who claimed that they selected patients who were "on the road to recovery" to act as donors of blood serum for schizophrenic patients in an acute stage, reported the results of their experiment on one patient who was "not very far advanced pathologically." Every two or three days for about a month they injected from 5-35 cc. of blood from a patient, whose clinical condition was similar to that of the recipient. The latter improved.

FOCAL INFECTION

The most extensive and intensive investigations into the role of foci of infection and their relationship to mental disorders have been made by Cotton.⁸² He reported on "the successful treatment of 1,400 cases during the last four years (1918-1921) with only 42 return cases now in the hospital." These results, he added, "must be accepted as evidence that our work has been efficient. The fact that our recoveries in the last four years average 80 per cent of this group as against an average of 37 per cent for a period of ten years prior to 1918 should be convincing."

Kopeloff and Kirby,⁸³ involved in a similar investigation, concluded that "in a series of 120 cases showing manic-depressive, dementia praecox, psychoneurotic and psychopathic personality reactions, the removal of focal infection in 58 cases did not result in a higher percentage of improvement or recoveries than in a comparable group of 62 cases in which foci of infection were not removed." As regards dementia praecox itself, Kopeloff and Kirby made their investigations on 65 cases, of which 33 were operated upon for purposes of removing foci of infection, while 32 cases served as control material.

Holmes⁸⁴ theorized on the etiology and treatment of schizophrenia, having considered that there is "a toxic molecule in the cecum, which molecule, by a selective process, acts upon the brain to produce the mental symptoms and later the histopathologic lesions of dementia praecox." Acting under this impression Holmes urged daily irrigations of the cecum with large quantities of water,

five hours after the last meal of the day. Later Holmes carried out the irrigation through an appendicostomy, "until all amino-acids are removed." Holmes cited one case at length to support his theory. Robertson⁸⁵ was of the definite opinion that dementia praecox patients formed "a special type of inherent defective resistance to the action of bacterial toxins." He was not in a position to speak with a tone of finality, but he reported his results as "very encouraging"; he attempted therapeutic immunization against the bacterial toxins.

PHYSIOTHERAPY

Reports in the literature on physiotherapy in schizophrenia are few. Prengowski,⁸⁶ in the belief that dementia praecox disturbances are related to changes in the vasomotor system, recommended that hot compresses be applied to the spinal region. Furthermore, he advised massage of the entire surface of the body. At other times he employed high pressure douches and hot baths. And, finally, he prescribed small doses of iodine. Among 48 patients treated by one or more of the above measures, he reported 14 patients as cured, 18 as essentially improved, 9 as somewhat improved and 7 as uninfluenced.

Walker⁸⁷ feels that the mental and nervous symptoms of dementia praecox are related to disease of the thyroid gland, unless thyroid hypofunction is considered to be either a causative or a contributory factor. He mentioned that several of his cases showed the symptoms of vagotonia during the illness, while during remission the vagotonic symptoms were absent. As a treatment procedure for purposes of raising the basal metabolic rate, he used a high-frequency current, with the result that the rate was raised 10-15 per cent; there was also an elevation of body temperature by two to three degrees and the pulse rate was increased 20-30 beats per minute. He concluded that diathermy was a useful therapeutic remedy and one "likely to play a definite part in furthering recovery."

SURGICAL PROCEDURES

Aside from the opinions of Holmes and Ernst with respect to the influence of appendicostomy and subsequent colonic irrigations, little else of a surgical nature has been mentioned as of general

value in the treatment of schizophrenic patients. Berkeley and Follis,²⁴ writing in 1908, felt that up until that time the number of thyroidectomized patients was insufficient to warrant any conclusions of a definite character. They expressed the opinion that "it is possible that in a catatonia we have a perversion of the secretion of that organ (thyroid), and that partial thyroidectomy induces a return to the normal in the secretion of the remaining portion of the gland. The return to the natural state of the reflexes, the decrease of the muscular mechanical irritability, as well as of the dermatographia, the loss of pigmentation, also of the doughy, pasty character of the skin (most noticeable in the prodromal stage and stage of mutism), and the later return to the normal both of the mental as well as physical state, are at least suggestive that partial ablation of the gland is a factor, and has something to do with the rapid recovery." The authors give clinical data in much detail.

The results of vasectomy in 100 patients with schizophrenia were communicated by Stern⁸⁸ and his collaborators. The operation in each case had been performed from 5-18 months prior to the writing of the report. Each patient was under thirty years of age at the time of admission to the hospital. Among the 100 patients were 49 of the hebephrenic type, 40 of the paranoid form, 7 of the catatonic and 4 of the simple dementing type. Of the 100 patients 71 showed no mental or physical improvement; among the 71 there were 37 hebephrenic, 27 paranoid 5 catatonic and 2 simple demented patients. "In 17 cases there was no mental improvement, but there was a slight improvement physically . . . In 6 cases there was no improvement physically, but there was a slight improvement mentally. As a final opinion they claimed that "the results of vasectomy are rather indefinite."

Robinson,⁸⁹ citing case material, was of the opinion that "one of the important causes of catatonic stupor is an accumulation of an excessive quantity of cerebrospinal fluid which by its presence and pressure interferes with brain function and is directly responsible for some of the symptoms observed in this condition." He thought that the removal of the excess of cerebrospinal fluid by lumbar puncture was of consequence in the improvement of three catatonic patients. There was "a lessening of the stupor following the decrease of the pressure by lumbar puncture."

OCCUPATIONAL THERAPY

Probably one of the most influential adjuncts in the management of schizophrenic patients comprises industrial therapy. Among this group of patients in particular the restoration to a working capacity is highly important. This is considered to be of special merit in the attempts to keep the patient's interest in activities away from himself. He is already too little concerned in environmental circumstances to insure a healthful outlook and anything that we can do to encourage an externalization of his interests will be of help. Industrial therapy should be regarded as a means to an end, the latter constituting the establishment of rapport with the patient so that psychotherapeutic measures may be established. Even though the etiology of schizophrenia is obscure, it is certain that there are psychical elements in almost every patient that are amenable to a greater or lesser extent to a psychotherapeutic approach. One of these psychical elements comprises the attitude that the patient assumes towards the various personalities in the surroundings. Hence, the relationship of the occupational teachers and the other patients in the class to the patient under consideration should be looked upon with special care, for schizophrenic subjects are prone to embody at least a part of their psychical life into that of others. The establishment of such an identification is one of the most important features associated with occupational therapy and should be looked upon as a favorable point of entree for the initiation of psychotherapy. This opinion is true, whether the identification be of a positive or of a negative character, for what we aim to do is to find out all we can about the patient's likes and dislikes and the reasons therefor; with that knowledge at our disposal we are in a position to attempt a correction of faulty habits of reaction. When, for instance, a patient forms an attachment to a teacher, the physician should endeavor to find out what factors are involved in the attachment. Generally, the search reveals matters of consequence in the patient's attitude towards the personalities he encountered long before he entered the hospital. We feel, as White⁹⁰ does, that occupational therapy is "naïve conception of psychotherapy." White maintains that industrial therapy "individualizes the patient, centers his attention and interest upon his specific problems, sets up a wholesome type of transfer, starts the flow of interests to outside

realities and socializes his tendencies in useful occupations." Humphrey emphasizes this attitude, when he says that, "the first thing which it seems worth while to work for is to preserve, as far as possible, contact with normal life." Goss⁹¹ says: "We have at the present time many cases of chronic alcoholism and dementia praecox that have remained stationary for years, where, in our opinion, further degeneration has been prevented by steady, congenial occupation." There are several other references in the literature on the influence of occupational therapy in the management of schizophrenic patients. Almost all of them have a favorable tenor.

SUMMARY

The object of the present communication is to present a summary of the principal attitudes in the treatment of schizophrenia. The views in general are three-fold. It appears from the works of others that the broad *psychobiological* approach has rendered better service in the general management of schizophrenic problems than have other forms of treatment. *Pharmacotherapeutic* investigations have likewise been reported as yielding favorable results under the circumstances particular to the nature of the drug employed. A third plan comprises a *combination* of the first two methods. In some cases combined treatment is the method of choice, either the psychical or the pharmaceutic measures being emphasized, depending upon the special circumstances surrounding the case. Ordinarily drug therapy appears to be useful as a means by which the patient may be rendered accessible to psychotherapy. Occupational therapy occupies a somewhat similar position, in that it affords the patient an opportunity to express his needs and his interests and by the expression the way is open for more profound investigation and treatment of the psychological issues peculiar to the case at hand.

On the whole one may feel that, though there are yet many unsolved problems in schizophrenia, there are also some palpable therapeutic aids that should encourage us in the handling of this form of mental disease.

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PHYSICAL FEATURES, ADMINISTRATION AND WORK OF A U. S. VETERANS' PSYCHIATRIC HOSPITAL*

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We are very glad to welcome you to this hospital today. It affords the Medical Officer in Charge especial pleasure to greet you, he having once had the honor of being an assistant physician in the New York State hospital service, and is grateful for the opportunities and advantages which were offered there for experience in the care, treatment and study of psychotic patients. We appreciate the honor of this opportunity of acting as host to you today, and we shall do our best to make your visit here a pleasant one.

General Hines, Director of the U. S. Veterans' Bureau, in his speech at the formal opening exercises held at this institution last August, expressed the appreciation of the Bureau for the manner in which the Department of Mental Hygiene of this State had cooperated in the problem of the care of veterans suffering from psychotic disorders. He called attention to the fact that there were at all times more than one thousand veterans in New York State institutions, and that although these veterans were crowded into space needed for other civilians, you never requested the Bureau to remove them from your hospitals, feeling that the problem was one for the State as well as the nation. The director, I believe, referred to the Kings Park State Hospital and stated that many veterans still remain there, and he expected that they would stay because he felt that the treatment there was comparable to what could be done here.

Dr. Parsons has asked us to say something at this time of the work of the hospital, especially as regards certain features of administration such as the maintenance plan and salaries. I shall be glad to make a few remarks in regard to this, and a few features of organization and administration which perhaps differ in some respects from the New York State Hospital service.

As a preliminary, it may be of interest to know that the bureau at the present time is operating 49 hospitals. These are divided into three groups: First, those being conducted for the care and

* Address at Quarterly Conference at U. S. Veterans' Hospital at Northport, December 18, 1928.

treatment of general medical and surgical cases; second, hospitals for the tuberculous, and third, those for neuropsychiatric patients. At the end of the fiscal year 1928 the bureau had under hospitalization 25,899 patients. Fifty per cent of these patients were hospitalized because of neuro-psychiatric disability, 26 per cent for general medical and surgical disability, and 24 per cent for tuberculosis. Of the total patients under hospitalization 69 per cent are now in U. S. Veterans' Bureau hospitals, 23 per cent in other Government hospitals, and 8 per cent in state and civil institutions. The use of state institutions is for neuro-psychiatric patients almost exclusively. It is expected that when the bureau's new hospital construction program is completed, that all service-connected neuro-psychiatric patients will receive hospitalization in Government institutions if desired. A total of 707,384 patients have been admitted to all hospitals during the past nine years. The admissions, during the fiscal year 1928 totaled 73,270, the admissions having increased approximately two thousand annually since 1926, these admissions being largely in neuro-psychiatric institutions. Claims for death and disability have already been filed by about 20 per cent of the men who served in the armed forces of the United States during the World War, and over 546,000 of these claims have been allowed. To June 30, 1928, over one billion dollars had been expended, exclusive of insurance claims for veterans. The gross expenditures of Veterans' Bureau hospitals during the past year amounted to over thirty million dollars, and the net operating expenses were over twenty-six million dollars. The per diem cost of operation of the hospitals of the neuro-psychiatric group was \$2.92.

This hospital is one of two psychiatric institutions of the bureau located in New York State, and admits patients from the states of New Jersey and Connecticut as well as New York. Being licensed by your department our patients here are regularly committed, or have been committed to other institutions and transferred here by order of the Department of Mental Hygiene. The census of the hospital at the present time is 820, with an estimated capacity by the bureau of 944.

The buildings were planned by the construction division of the bureau in Washington after consultation with various experts and with the neuro-psychiatric division of the bureau under the direc-

tion of the medical director. It would take too much of your time to go into a detailed description of the structural features of the buildings. It might be stated, however, that the buildings are concrete, tile and brick, with slate roofs and stone trimmings, and are at the present time 24 in number, composed of an administration building; a main hospital group comprising an infirmary building in which is located the admission ward, diagnostic clinic, various laboratories, the library, dental department and operating room, four continued treatment buildings, a building for acutely disturbed patients, recreation building and auditorium, and a building providing kitchen and congregate dining room facilities, all being connected by tunnels and surrounding a court comprising about eleven acres. The utilities group of buildings is composed of a laundry, warehouse, power house and garage. The personnel group consists of a nurses' home, two buildings for attendants, an apartment house and two duplex houses for medical officers, and a house for the medical officer in charge. The fuel used is oil; the water supply is obtained from two wells driven to a depth of some 750 feet; sewage is disposed of by a plant including a Doten septic tank, water aeration, filtration basins, and sludge and seepage beds.

A few of the structural and equipment features which may be of some interest are the ornamental balcony grills on the outside of the windows, the sashes being made of steel with the lower sash limited by lugs so that it can only be raised to the upper level of the outside grill and the upper sash can be lowered but a short distance, this arrangement tending to do away with the barred window effect. The windows in parts of the building for disturbed patients are provided with non-shatterable glass. The porches, especially in the buildings for the care of continued treatment patients, have been made especially commodious, and have been found to be very satisfactory. In the building for acutely disturbed patients, and in the infirmary building, the ceilings of the corridors and wards have been provided with sound-deadening material, that in the infirmary building being composed of an absorbent plaster, and that in the building for the disturbed with a material especially manufactured for that purpose by the Johns-Manville Company. The installation of specially arranged lights in the base boards to serve as night lights in all single rooms, and in infirmary wards

and dormitories throughout the entire institution occupied by patients, has been found quite satisfactory, giving out a soft light and thus not disturbing patients for whom light is not needed.

The bureau has been very generous to us, I think, in furnishing physio-therapy equipment and especially facilities for hydrotherapy. There is a hydrotherapy room with prolonged bath facilities on every ward of the infirmary building, and one in all buildings occupied by the patients. In the building for the acutely disturbed patients, an especially large room is provided with eight prolonged bath tubs connected with an apparatus for the automatic and graphic recording of the water temperature and alarm signals which operate in case the temperature of the water goes above or below that desired. In addition to this, a complete physiotherapy set-up, including hydrotherapy, heliotherapy, etc., is located in the infirmary building, and a somewhat similar unit is located in the building for disturbed patients. There is also a swimming pool in the building for disturbed patients.

Money has been allotted by Congress for an occupational therapy building but this has not yet been erected, so that at the present time we are using for this very important method of treatment part of one of the buildings for continued treatment patients. Until the occupational therapy building has been provided we are making every effort to employ large numbers of patients outdoors.

The medical work here is carried on under the direction of the medical director of the bureau whose office is in Washington, and who happens to be a psychiatrist. He is assisted by members of the neuro-psychiatric division who have charge of the neuro-psychiatric work in Veterans' Bureau hospitals for that group and in regional offices. Medical appointments are made by the director on recommendation of the medical director and after civil service certification. The medical officers here perform ward duties similar to those in your hospitals except that possibly the paper work is somewhat more extensive. The ratio of medical officers to patients is about 1 to 58. In addition, we have a full-time internist, a full-time eye, ear, nose and throat specialist, a medical officer who acts as roentgenologist and operates the electrocardiograph machine, a pathologist who also has charge of the basal metabolism work, and a reconstruction officer who is also on full time. The surgical work is performed by an attending surgeon. The dental

department is composed of a chief dental surgeon, and two dentists who give their entire time to the work. These are all under the supervision of the clinical director.

The duties of the reconstruction officer might be briefly mentioned as in Veterans' Bureau hospitals he is considered to be of considerable importance from a treatment standpoint. This officer supervises all occupational therapy activities of the hospital. Prescriptions are made by the medical officer on the ward for every patient who is engaged in some form of occupation, but there is close co-ordination and cooperation between the reconstruction officer and the ward medical officer. The reconstruction officer also has supervision of the application of the various forms of physiotherapy as carried on in the physiotherapy centers in the infirmary and building for disturbed patients. The reconstruction officer also superintends the work of the physical director. He has at the present time under his charge ten occupational therapy aides and four physio-therapy aides. It is expected, however, that the number of occupational therapy aides will be considerably increased.

Those of you who served during the war probably have not forgotten that there was such a position as medical officer of the day. This system is carried out here and is similar to that used in the army and navy institutions. Each medical officer below the grade of clinical director serves as officer of the day in rotation. In this bureau it is quite an important position and the duties involve considerable responsibility, for in the absence of the medical officer in charge the officer of the day is practically in charge of the hospital under the senior medical officer present. His tour of duty is 24 hours. Among his duties are the making of three rounds of inspection of all wards where patients are located, and other parts of the institution when so directed, reporting to the clinical director, and conferring with ward medical officers in regard to seriously ill patients who might need attention during the night. He must partake of all food served at each meal, reporting on the quality of the food and the service. He also reports on the general hygiene of the patients and wards, and has various other duties. The position of officer of the day is an opportunity for medical officers in the service to secure a better knowledge of duties to better fit them administratively for the position of medical officer in charge.

The nurses in this and all Veterans' Bureau hospitals are graduates, and in this institution practically all of them have had psychiatric training, some of them graduating from general hospitals and afterward taking up psychiatric training, or graduating from psychiatric institutions with courses in a general hospital. They have charge of all wards in the institution, and serve under the direction of a chief nurse and assistant chief nurse. The ratio to patients at present is approximately 1 to 20.

The ratio of attendants to patients is about 1 to 6. The attendants are under the direction of the chief nurse, but under the immediate supervision of a supervisor of attendants. It is admitted that there may be some difficulty with this arrangement unless the personalities of the two individuals are such that harmony may be assured. However, if the right individual can be found for the position of supervisor things seem to work out pretty well. It has been found to be difficult at times to convince a male supervisor who may have had years of experience in the care of mental patients that his judgment is not equal or superior to that of a chief nurse who may have had considerably less experience, especially in the care of male psychotic patients. Fortunately, we have had but little trouble here thus far in this respect. This problem, I believe, is not present in the State service.

The dietary department is under the immediate supervision of a chief dietitian who has two assistants. The chef, cooks, waiters and kitchen helpers are all under her supervision. She and her assistants prepare special diets which may be served in the congregate dining rooms, or in the dining rooms connected with the wards in the infirmary and building for the acutely disturbed patients. She is under the immediate supervision of the clinical director.

We have but two social service workers on duty at the present at this hospital. Our chart of organization calls for three librarians, but at the present time we have but two. They are immediately responsible to the Medical Officer in Charge. The entertainment programs are under the supervision of the Red Cross. There are two workers on duty here at the present time, a director and an assistant director.

The business functions of the hospital are carried on by the business manager. His duties are perhaps similar to those of a

steward in the State hospital service, although I believe he may have other responsibilities and duties which a steward does not have. He is directly under the supervision and performs his tasks by direction of the Medical Officer in Charge. Some of his duties are given him by authority of the Bureau, others may be delegated to him by the Medical Officer in Charge upon approval of the Bureau but always on the responsibility of the Medical Officer in Charge. The business manager supervises, under direction, the procurement, storage and issuing of various commodities, employs certain personnel, has charge of auditing and paying of accounts, and issues transportation. The maintenance and upkeep of the hospital grounds and buildings are under his direction, including maintenance and operation of the station heat and power plants, lighting and electrical facilities, plumbing, sewage disposal, water supply and refrigeration. He makes inspections at least once a week with the Medical Officer in Charge throughout the buildings and grounds, and gives instructions in regard to the carrying out of necessary repairs and replacements. The business manager is also charged with the maintenance and operation of the hospital laundry, and is responsible to the Medical Officer in Charge for the proper laundry service to the patients as well as the personnel. He relieves the latter of considerable routine of a business nature and gives him more time for medical work. The chief engineer is responsible to the business manager, and to the former the carpenters, electricians, plumbers and painters, etc.

The property custodian has charge of Government property, and issues and obtains receipts for all supplies. All employees having Government property in their possession must sign receipts for this property at regular intervals after taking an inventory. Formerly this interval was one month, but this is changed so that we are now required to make inventory and sign a receipt once every three months. If any property is missing the employee must make an accounting for the same. This method of caring for Government property is not always taken kindly to by the medical officers at least, and to those who have come to us from the State service it has appeared to be quite an annoyance. The property custodian is responsible for the patients' effects. The general and subsistence storekeepers and their assistants are under his direct super-

vision and he is under bond. The disbursing officer who serves under the business manager is also under bond.

In regard to the matter of salaries for employees in this and other Veterans' Bureau hospitals, it may be said that employees of the hospital are given a salary, and quarters, subsistence and laundry are furnished. Where such are furnished they are provided for in the contract of employment, and the monetary equivalent value is fixed by the bureau, the contract of employment specifying what allowances are to be furnished. For this purpose the employees are divided into groups—first, the administrative, professional and executive group, such as the medical officers, chiefs of services, business manager, chief nurse, etc.; second, the sub-professional and clerical personnel, such as assistant chief nurse, assistant dietitian, laboratorians, chief engineer, stenographers, social service, etc.; and third, a maintenance and operative group such as certain classes of engineers, cooks, carpenters, auto mechanics, gardeners, painters, plumbers, etc. For quarters furnished the first group, namely, the administrative, professional and executive, the Government charges at the rate of \$15 a month for the first room occupied by one employee, and \$12.50 a month each when occupied by more than one. Ten dollars a month is charged for each additional room of 120 square feet or more, this being called a room of reasonable size and utility. For the second group comprised of sub-professional and clerical personnel, a charge of \$12.50 is made for a room occupied by one, and \$10 each for a room occupied by more than one employee, and \$10 per month for each additional room of reasonable size and utility. The maintenance and operative group are charged \$10 a month for each room when occupied by one or more employees. All classes of employees are charged \$5 a month for each room of less than 120 square feet, except that no charge is made for pantries, laundries, bath rooms or alcoves. So-called breakfast rooms are charged at a rate to be determined by the floor area. For subsistence \$30 a month is charged for administrative, professional and clerical employees, and for maintenance and operative personnel the charge is \$25 a month. All classes of employees pay \$2.50 a month for laundry. To explain this method of payment a little more clearly, it might be said that appointment letters, for instance for the position of attendants, who receive \$67.50 a month to com-

mence, read as follows: \$810 plus standard quarters, subsistence and laundry, or \$1,260. By standard quarters is meant a room or rooms for which janitor service is provided, and bedding and linens are furnished. Medical officers who live on the station, for instance, have the cost of their quarters taken out of their salaries, and are not furnished with subsistence. Quarters at this and some veterans' hospitals are not available for quite a number of medical officers and other personnel, and therefore these employees have to live away from the institution. In order to do this, the medical officer in charge must certify that there are no available quarters at the station. If quarters are available at the hospital it can be readily understood that an employee might live at considerably less expense than in town in accordance with the present value which the Government places upon allowances.

It will be seen by the brief statements made concerning the administration and organization of the hospital that in many respects it is similar to that of the State hospitals, and in other respects somewhat different. It is realized that we are speaking to executives and administratives of a system which has been in operation for many years, and no doubt many of your methods could be considered to advantage by the Bureau.

SODIUM BROMIDE THERAPY IN FUNCTIONAL AND ORGANIC PSYCHOSES

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In 1925, Dr. Wright reported a series of results obtained from the intensive use of bromides in functional psychoses. This work was begun in June, 1924, at the Utica State Hospital. Up to that time little attention had been given to the use of bromides or allied drugs in the treatment of mental disorders. In 1916, Ulrich reported having successfully treated 10 cases of melancholia by the use of a salt free diet and bromide given to the point of marked intoxication. Kläsi in 1922 applied a somewhat similar method in the treatment of 26 cases of dementia *præcox* by the use of somnifen, a drug which is chemically entirely different from the bromides. As far as personally known there have not been any publications relative to the bromide treatment of the psychoses other than the above. In fact the majority of textbooks either condemn or at least do not favor the use of bromides in the treatment of mental disorders.

This paper gives the results obtained by the treatment of a group of chronic patients with bromides at the Utica State Hospital.

The patients treated were not of a type in which to look for phenomenal results. They had all been in the hospital for a number of years. The majority of them were extremely disturbed, noisy, resistive, assaultive or destructive. Most of the cases fell in the class of the functional psychoses although a few belonged to the organic group. As might be expected there was less improvement in the latter group.

It was not so long ago that a dose of 60-90 grains of bromide in a day was considered the maximum. However, it has been proven by recent observations that frequently as large doses as 300 grains a day can be given over a period of a week to 10 days and doses as high as 180-210 grains daily over a period of two to three weeks with either no or very slight signs of bromide intoxication. Frequently the smaller dose has led to intoxication as quickly if not more quickly than the larger quantities.

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Only 3 cases were noted in which bromide had an unfavorable effect, causing the patients to become delirious. In this condition they were much more difficult to care for and exhibited besides confusion, increased psycho-motor activity and destructiveness.

With the use of large doses of bromide it is remarkable to find such a low incidence of bromide rash. In only 10 of the cases treated did this symptom develop. It rapidly responded to the use of Fowler's solution. In five of these cases bromide was discontinued while the rash persisted, in the other 5 the amount given was reduced. In no case was the rash apparent at the end of two weeks and in only 4 cases was there any recurrence of the rash.

In two of the cases treated there was oedema of the lower extremities. This might be considered as due to the action of the drug on the kidneys. However, urinalysis gave negative results. Because of such oedema, treatment of one of the cases had to be discontinued but not before mental improvement had been observed. The other case with carefully regulated doses and short rest periods did not show a recurrence of the oedema.

With the exception of the above there were no untoward results. It is true that at times some patients would show signs of bromide intoxication. However, with the temporary withdrawal of the drug and the free administration of saline fluids and saline purgative the intoxication was rapidly overcome. There were no deaths in this series during the period of observation nor was it shown or is it believed that bromide in any instance hastened the process of mental deterioration.

Bromide is said to exert its chief influence on the cerebral cortex. The exact way in which bromide influences the cortical cells and association fibres is not known, but it is probable that beneficial results are brought about in one of the following ways:

1. Through the relief of tension, and therefore a diminution in the severity of the mental conflict, an opportunity is afforded for the strivings towards reality to dominate.
2. By stimulation of inhibition thereby strengthening that portion of the psyche which is striving towards reality, to correlate or bring together the split off portions.

Certainly this much can be said for the use of bromide that it frequently brings about a return of interest in the field of former

activity, and the patients do not live such a complete life of phantasy. It would appear that patients become more readily accessible and are more easily influenced. It is also believed that the level of consciousness is raised and while in this state the patient's activities can be more easily guided, a certain transference gained and their activities directed into useful channels. This was frequently shown to be the result in the cases treated. Some have become easier to care for, many others are now employed in useful and constructive work, are in a more comfortable state and have not reverted to their former bad habits. The general health remained good during the course of treatment. Many cases with poor appetite showed improvement. In a few cases, however, appetite was temporarily impaired. There was no evidence to show that chronic physical disabilities were aggravated, however, during acute illness bromide was discontinued. In cases pointing to impaired elimination urinalysis was done and results were negative.

One of the important guides in the regulation of treatment is the weight of the patient. This was taken every two weeks and for convenience in this report is divided into three monthly periods. Gain and loss in weight are tabulated together with those maintaining the same weight; also the gain or loss in weight either at the end of treatment or at the end of observation period. See accompanying Table 1.

TABLE 1. CHANGE IN WEIGHT OF PATIENTS UNDERGOING BROMIDE TREATMENT

Loss or Gain in weight	1st 3 months 72 cases			2nd 3 months 71 cases			3rd 3 months 81 cases			4th 3 months 78 cases			
	Pounds	Loss	Gain	No loss or gain	Loss	Gain	No loss or gain	Loss	Gain	No loss or gain	Loss	Gain	No loss or gain
½—4	24	19	1		17	27	1	21	25	4	33	16	4
5—9	12	6	.....		10	6	.....	7	14	.....	13	9	.....
10—14	6	.....			3	6	.....	4	.....		2	1	.....
15—20	2	2	.....		1	.....		3	3	.....	.....	.....	.....
Total.....	44	27	1		31	39	1	31	46	4	48	26	4

From the above table it will be seen that a larger number lost in weight than gained during the first and fourth three months' period, while in the second and third three months' period more gained in weight than lost.

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The results obtained in the cases treated were classified as follows: Much improved, improved, slightly improved or unimproved. Twelve cases, or 13.95 per cent, were considered much improved; 35 or 40.7 per cent, improved; 16, or 18.6 per cent, slightly improved, and 23, or 26.74 per cent, unimproved. For details see Table 2. The grouping was made on the following basis:

Much improved. Cases which had not received bromide for a period of 4 to 10 months prior to the end of the observation period. They remained cooperative and industrious, with little if any reversion to their former state.

Improved. Cases which either have been discontinued, continued at intervals or the dose markedly decreased and in which reversion to the former state has not occurred or its intensity markedly lessened with longer intervals.

Slightly improved. Cases in which treatment has either been discontinued, continued at intervals, the dose decreased, or small daily average given. In these cases there has been no lasting effect but they are cared for with less difficulty, are more agreeable, somewhat more tidy and less inclined to impulsive acts.

Unimproved. Cases in which treatment has either been continued at intervals or occasional large doses given during disturbed spells, in which only a slight if any temporary improvement could be noted with no lasting effects.

Cases discontinued with length of treatment is shown in Table 3.

TABLE 3. PERIOD OF TREATMENT OF DISCONTINUED CASES

CONDITION	Total	1 mo.	2 mos.	3 mos.	4 mos.	5 mos.	6 mos.	7 mos.	8 mos.	9 mos.	10 mos.
Much improved.....	12	....	....	2	3	3	2	1	1	....	....
Improved.....	12	....	....	2	1	2	4	1	....	1	1
Slightly improved.....	2	....	1	....	....	....	....	....	....	1	....
Unimproved.....	14	1	3	2	4	....	3	....	1	....	....
Total.....	40	1	4	6	8	5	9	2	2	2	1

A few cases will be cited in detail. These cases have been selected to give a comprehensive idea as to the amount of bromide given and the results obtained in as varied a group as possible.

TABLE 2. RECORD AND RESULTS OF TREATMENT

PSYCHOSES OF PATIENTS TREATED	CONDITION OF PATIENT AFTER TREATMENT						TREATMENT DISCONTINUED			Dosage DECREASED			Dosage CONTINUED IN SAME WAY			Dosage CON- TINUED AT INTERVALS			Small DAILY DOSE GIVEN		
	TOTAL		M	I	S	I	M	I	S	I	S	I	S	I	S	I	S	I	S	I	
Dementia precox, paranoid type	40	8	19	6	7	8	8	1	3	2	2	1	1	5	1	2	4	1	1
Dementia precox, hebephrenic type	20	3	8	4	5	3	2	1	3	...	1	...	1	...	1	1	...	4	1	2	
Dementia precox, catatonic type	8	...	2	1	5	...	1	...	3	...	1	...	...	...	...	...	...	2	1	...
Dementia precox, simple type..	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Manic-depressive, mixed type..	2	...	2	...	...	...	...	1	...	...	1	...	...	1	...	1	...	...	...	...
Manic-depressive, manic type..	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
With psychopathic personality..	2	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...
With mental deficiency	4	1	...	1	2	1	...	1	...	1	...	...	...	1	...	1	...	1	...	...
General paralysis, cerebral type	4	...	1	1	2	...	...	2	...	...	...	...	...	...	1	...	1	...	1	...
With cerebral arteriosclerosis..	1	...	...	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Semile psychosis	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Alcoholic psychosis	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
Total	86	12	35	16	23	12	12	2	14	2	4	...	2	1	2	7	6	4	12	3	3

M—I—Much Improved.

I—Improved.

S—I—Slightly Improved.

U—Unimproved

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CASE 1. B. D. Age 48. Dementia praecox, paranoid type. This patient had been in the hospital for a little more than 4 years at the time treatment was begun.

At this time she was restless, scolding, reacting to imaginary voices, displayed a marked homosexual trait and a well systematized delusional trend of persecution. She had no insight into her condition; often begged the nurse for a stick and, when asked why she wanted it, would reply: "That is for you to find out." As a rule she was too restless to apply herself closely to any occupation, was rather careless about her person, noisy, talkative and profane.

Bromide was started on June 15, 1926, and she received an average of 90 grains daily until the end of the month when she became somewhat quieter and more agreeable. During July she received 60 to 90 grains daily and at the end of the month she was even more agreeable, less assaultive and was taking more interest in her personal appearance. She was now employing herself doing ravelling and winding for the occupational therapy department and was also assisting with the ward work. During the first three weeks of August she did not receive any bromide and gradually became less cooperative, more disagreeable and difficult to manage; was at times assaultive. The last week of August and during September she received an average of 60 grains daily and gradually became less assaultive, more cooperative and was making several beds on the ward as well as doing occupational therapy work. During October she received 30 to 60 grains daily, was still cooperative and although slow was keeping herself busy about the ward doing useful tasks, During November she still remained improved and did not require bromide. In December she became somewhat disturbed, quarrelsome, stubborn and was cooperating poorly but had not been assaultive. From the 3rd of this month to the 21st she received 30 grains daily at the end of which time she was more agreeable and was cooperating well. She did not receive further bromide up until June 15, 1927.

She has remained self-centered and stubborn and would dream for long intervals unless kept employed; has not been assaultive; has been taking good care of her personal appearance being neat and tidy in her habits; has been employed daily at occupational therapy work and in the dormitory, taking some interest and succeeding well in these occupations.

Before bromide had been given she had been indolent and could not be urged to do anything useful. Her condition is considered as much improved.

CASE 2. R. M. Age 41. Dementia præcox, paranoid type. This patient had been in the hospital for 10 years at the time of treatment was begun.

She was quarrelsome, seclusive, careless about her personal appearance, resistive and was destructive of her clothing. She was quite deteriorated, displayed no insight, talked in a rather childish manner and showed marked scattering of thought.

Bromide was started on June 15, 1926, and she received an average of 90 grains daily until the end of the month when there was little change in her condition. From the 1st to the 18th of July she received an average of 60-90 grains daily, then appeared somewhat confused and frequently undressed herself. She developed a slight rash on the lower extremities and therefore did not receive further bromide during this month. During the latter part of July she showed some improvement, being more agreeable, less noisy and resistive and did not destroy her clothing.

She was employing herself at simple occupational therapy work and light ward work. During August, September and October she remained improved and cooperative and did not receive bromide during these months. During November she was again noisy, resistive, disagreeable and non-cooperative and received 30 grains of bromide daily for a week when she again became agreeable and cooperative. During December she again reverted to her former habits and received an average of 30 grains of bromide daily from the 2nd to the 19th following which she was agreeable and cooperative. She did not require further bromide up to the end of the observation period June 15, 1927. At times she was slightly resistive and irritable but continued at useful employment and had not torn any clothing in 9 months.

Prior to bromide treatment this patient had been practically indolent, could be induced to do only a little polishing under much protest and almost constant supervision. Her condition is considered as much improved.

CASE 3. A. D. Age 35. Dementia præcox, hebephrenic type.

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This patient had been in the hospital for over 5 years at the time treatment was begun.

She was excited and talkative most of the time, careless about her personal appearance, at times profane, noisy and restless at night, frequently getting out of bed, climbing in bed with other patients or running up and down the hall, often in a nude condition. She urinated on the floor a great deal and used abusive language, reacting to auditory hallucinations. At times was irritable and assaultive, destroying her clothing.

Bromide was started on June 23, 1926, and she received an average of 90 grains daily during the remainder of the month, at which time there was little change noted in her condition. During July she received an average of 90 grains daily and towards the end of the month became more agreeable, quieter and cooperative. Was less aggressive and was not tearing her clothing or urinating on the floor. During the first three weeks of August the patient did not receive bromide and then reverted to her former bad habits. From August 21 to the end of the month she received 60 grains of bromide daily and at the end of the month a little improvement had been noted in her condition. During September she received 30 grains daily, was well behaved, doing a little ward work and assisting in occupational therapy class. During October she remained improved and did not require bromide. During November she was less cooperative with a tendency to be assaultive and received 90 grains daily from the 5th to the 8th when her condition was again improved. During December she required 30 grains of bromide daily from the 1st to the 21st, was again more disturbed and tearing clothing and required 90 grains daily from the 21st to the end of the month. From the 1st of January to the 14th she required 90 grains of bromide daily following which she seemed somewhat groggy. It was not necessary to give her further bromide up until the end of the observation period, June 15, 1927.

She has remained improved without bromide, is quiet, cooperative, not tearing her clothing or urinating on the floor or wetting the bed and is taking more interest in her personal appearance. She continues at light ward work and is rendering fairly good service for the occupational therapy department. Before bromide had been given this patient had required much urging and supervision to

induce her to employ herself at a little polishing. Her condition is considered as much improved.

CASE 4. M. W. Age 38. Dementia praecox, hebephrenic type. This patient had been in the hospital for 4 years at the time treatment was begun.

She was self-centered, depressed, egotistical, at times expressing death ideas and frequently complaining that other patients were bothering her. She took little if any interest in her personal appearance or in her environment. She was resistive toward attention and on occasions destructive, having broken several panes of glass. Displayed much self-pity and gave expression to numerous somatic complaints. Would not cooperate in the routine of the ward nor was she cleanly in her habits, frequently masturbating.

Bromide was started on December 11, 1926, and up to the 22nd she received 90 grains of bromide daily, then 120 grains daily for the remainder of the month. At the end of this period she was taking some slight interest in her environment, was doing a little light dusting on the ward and simple sewing for the occupational therapy department. During January she received 90 grains of bromide daily from the 1st to the 20th and then 30 grains daily for the remainder of the month. Although still quite depressed she was cooperative and had not been observed masturbating for a month. During February she received 30 to 60 grains daily, was less depressed and was taking more interest in her surroundings. Was employing herself well and appeared to be interested in her work. During March she continued well on 30 grains of bromide daily. From the 1st of April up until the end of the observation period, June 15, 1927, she remained improved without bromide.

She was doing light ward work on the ward and was employing herself in the occupational therapy center, appeared to be interested in her work and doing well. She is not so depressed but is quiet and agreeable; she has not been observed to be masturbating since the early part of January. Since this patient had regressed to a vegetative condition and was indolent at the time treatment was begun, she is regarded as much improved.

CASE 5. C. F. Age 62. Dementia praecox, catatonic type. This patient had been in the hospital for 30 years when treatment was begun.

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She was deteriorated, careless and indifferent but only occasionally untidy in her habits. Patient had been in the habit of mutilating her person with her finger nails, causing abrasions which became infected and she kept constantly irritating them.

It was thought that bromide might alleviate this practice and treatment was begun June 22, 1926. From then until the end of the month she received 90 to 180 grains daily. At the end of this short period it was found that she was not picking at herself so constantly. From the 1st to the 20th of July she was given 30 to 60 grains daily but this was found to be insufficient as patient was reverting to her former habit. She therefore received an average of 120 grains daily during the remainder of the month. At the end of this period she was noted as being considerably improved and was only rarely picking her skin. During the first two weeks of August she did not receive bromide and at the end of this time she was again mutilating herself. Bromide was again given and during the last two weeks in August and in September she received 60 to 90 grains daily. During the latter part of this period she was not mutilating herself, was cooperating better and was doing some simple occupational therapy work. She received no further bromide up until the end of the observation period, June 15, 1927.

She still occasionally picks at her body when not employed but does not cause sores as formerly. Before treatment had been given she would do only a little polishing and is now employing herself at occupational therapy work as well as polishing. She is more tidy in her personal appearance. Her condition is considered as improved.

CASE 6. M. F. Age 40. *Dementia præcox, catatonic type.* This patient had been in the hospital for 10 years at the time treatment was begun.

She was deteriorated and was somewhat destructive. Her talk was rather incoherent, she was untidy in appearance and took no voluntary interest in her surroundings. Frequently she tore her clothing, urinated on the floor and wet her bed at night and would not cooperate in the routine of the ward.

Bromide treatment was started on June 15, 1926, and she received an average of 90 grains daily for the remainder of this month. During July she received 90 grains daily and toward the end of this

month showed improvement. She was not destroying her clothing and was doing simple occupational therapy work and polishing on the ward. During the first three weeks of August she remained improved and did not receive bromide but during the last week was given 30 grains daily as there was a tendency to revert to her former habits. During September she received 30 grains of bromide daily until the 15th and then did not require further bromide until the first of November. At this time she became somewhat destructive and was not cooperating well in what was requested of her. From the 1st of this month to the 24th she received 30 grains daily and then did not receive further bromide for the remainder of the month. During December she did well on an average of 30 grains daily except for a period from the 8th to the 16th when she required 60 grains daily. During January, February and March she showed improvement on an average dose of 30 to 60 grains daily. However, during this time there were several periods during which patient went for a week or two without bromide. During April with the exception of a period from the 1st to the 4th, when she required 120 grains daily, she did well on 60 grains daily. During May she did not require bromide for the first week but during the second week she had 90 grains daily. In spite of this, however, she was not cooperating well and was somewhat destructive, during the next week she received 180 grains daily following which she was somewhat groggy but she recovered from this in 2 or 3 days and did not require further bromide to the end of the observation period June 15, 1927.

In this case it had been necessary to continue treatment until almost the end of the observation period. She did not receive very large doses of bromide at any time, however, and usually did well on the smaller amounts. She frequently went 2 or 3 weeks without bromide and at one time went for a period of six weeks. When we consider that prior to treatment this patient had been indolent, doing only a little polishing under strict supervision, that while taking bromide she was only occasionally destructive, was polishing, cooperating fairly well with simple occupational therapy work, was not urinating on the floor and only occasionally wetting her bed, I believe we are justified in considering her condition improved.

CASE 7. E. M. Age 33. Manic-depressive psychosis, manic

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type. This patient had been in the hospital for 6 years at the time treatment was begun.

Her attacks were periodic, coming on at intervals of 4 to 6 months and usually lasting for 3 or 4 months. About the 1st of February, 1927, she became disturbed, destructive, over-active, etc., displaying a typical manic attack. She received alonol and was in the continuous bath for long periods daily, having to be cared for by a special nurse.

Bromide was started on February 24, 1927, at which time she was extremely disturbed, destructive, tearing other patient's clothing as well as her own, breaking spoons and dishes in the dining room and talking and shouting almost continually. She received 240 to 300 grains daily during the remainder of the month. From the 1st to the 6th of March received 300 grains daily following which she was somewhat groggy and did not receive further bromide for a period of 3 days. For 2 days following this she received 240, then 180 the next two days. From the 17th to the 25th did well on 180 grains daily. From the 26th to the 29th received 240 grains daily then had no further bromide during the month. The latter half of March she had periods during which she was not quite so disturbed. She has not required such intensive treatment during the past two weeks, has been much more agreeable, cooperative for her care and has not required a special nurse since the 2nd of March. From the 1st to the 18th of April she remained much better and was only receiving 30 to 90 grains daily when she again became markedly disturbed and on the 19th received 300 and 180 the following day. From the 21st to the 25th received 360 grains daily following which she was somewhat groggy and did not receive bromide for a period of two days; then received 180 grains for the remainder of the month. From the 1st to the 15th of May she received 30 to 60 grains daily. Was quiet, cooperative and industrious and her attack was apparently over, she requiring no further bromide to the end of the observation period, June 15, 1927.

This patient has not been receiving bromide long enough to tell what effect it will have on her subsequent disturbed spells or whether it will lengthen the interval between attacks. However, there is no question that bromide did help her during the attack, shortened its length and severity and made her care during this

period much less difficult. From this standpoint alone it is considered that the use of bromide was justified. As regards the manic attack her condition is improved.

CASE 8. C. B. Age 45. Manic-depressive psychosis, mixed type. This patient had been in the hospital for 11 years at the time treatment was begun. She had had three previous admissions to a State hospital varying in length from 9 months to 2 years.

For one year previous to the beginning of treatment she was in good contact with her surroundings, an efficient worker taking considerable interest in her environment, however, her mood was variable, at times she was mildly depressed at other times somewhat noisy, irritable and over-active.

During February, 1927, she became markedly disturbed destructive of her clothing, careless in appearance and habits, indolent, non-cooperative, allowed saliva to drool from her mouth, very untidy in the dining room, also noted as tearing her hair, excited, over-active, assaultive, getting into many arguments about the ward. There were also periods when the patient appeared depressed.

Bromide was started on February 10, 1927, and for a period of 3 days she received 90 grains of bromide daily, from that time until the 20th, 180 to 240 grains daily and then for 2 days 300 grains daily. At this time she was noted as being somewhat groggy and mildly depressed so did not receive further bromide during that month. During the first 6 days of March patient was quite disturbed, assaultive and required 180 to 240 grains daily. She then became quieter, more agreeable and cooperative, tidier and was taking some interest in the ward routine and required only 90 grains daily up until the 14th when she again became more disturbed but was not quite so assaultive or untidy as previously. She received 180 grains daily for the remainder of the month. During April the patient still remained practically the same as during the previous month except that her care was not so difficult. From the 1st to the 7th of April she received 90 grains daily, she was somewhat depressed during this period, she then became very over-active and destructive and for a period of 3 days received 240 to 300 grains daily, following this and until the 20th she remained improved on 90 grains daily, bromide then had to be increased to 180-240 grains daily until the 29th of the month when it was noted that the patient

was quite groggy. She did not receive further bromide to the end of the observation period, June 15, 1927.

Since the first of May she has only occasionally been noisy, has been giving better attention to her personal appearance, exhibiting considerable interest in the routine of the ward, also doing work for the occupational therapy department. Her care during disturbed periods was facilitated by the use of bromide. It will be noted that rapid improvement followed the groggy spell the latter part of April and first part of May. Her condition is considered improved.

CASE 9. M. S. Age 40. Psychosis with psychopathic personality. This patient had been in the hospital since May 25, 1921, except for a period of about 7 months in 1923 when she was paroled but was unable to make a satisfactory adjustment.

She always assumed a supervisor and very aggressive attitude, had marked delusions of a persecutory nature, believing that she had been put in the institution without an investigation and that her relatives had her papers marked so that they could get rid of her. For some months she had been domineering, assaultive and would not cooperate with any form of work.

She was started on bromide December 4, 1926, and from then until the 14th received 90 to 120 grains daily with no change. From the 14th to the 22nd, she received 210 grains daily when she was noted as being less aggressive and assaultive, remaining quieter during the remainder of the month on 60 grains daily. From the 1st to the 4th of January she received 90 grains daily but was becoming more quarrelsome, particularly in the early morning and her rest was disturbed at night. Therefore for 3 days she received 180 grains daily when she seemed slightly groggy and did not receive further bromide during the remainder of the month. She has become much more agreeable and cooperative doing some ward work and running the dishwasher in the dining room. During February she remained quiet and cooperative until the 12th when she again became disturbed and it was difficult to keep her at her work in the dining room. From the 12th to the 20th she received 90 to 180 grains daily and was quieter following this and cooperating better. From the 20th to the 23rd she received 90 grains daily but was again disturbed and from the 23rd to the 25th received 180 grains

daily when she was again quieter and was cooperating well, receiving no further bromide until the 8th of March, when for a period of 5 days she received 180 grains daily. No further bromide was given her to the end of the observation period, June 15, 1927.

She has remained neater in appearance; was not assaultive although at times somewhat aggressive, was not noisy and was cooperating well in the dining room, rendering efficient service and talking less of her persecutions. She was much more agreeable when interviewed and appeared to be taking some interest in her work. She was paroled June 3, 1927. Condition improved.

CASE 10. E. W. Age 51. Psychosis with mental deficiency. This patient had been in the hospital for 23 years at the time treatment was begun.

She was seclusive, sitting about in corners of the ward all day, had to be assisted in dressing, had to be urged to bathe herself, was untidy in her personal appearance, wet her bed; had frequent periods when she was restless and noisy at night, frequently gesticulating, becoming threatening and assaultive, being given to impulsive acts when she tore her clothing, broke chairs, etc.

Bromide was started on October 16, 1926, and she received 60 grains daily during the remainder of the month. At the end of this period she was more agreeable and cooperative, making beds on the ward, doing simple occupational therapy work and taking better care of her personal appearance. Previous to treatment she would only do a little polishing when urged. During November and up until the 14th of December she remained somewhat improved and was cooperative and did not receive bromide. From the 14th to the 16th of December she received 180 grains daily and then 90 grains daily for the remainder of the month as she was becoming somewhat disturbed and aggressive. During January she was still cooperating better and did not have any impulsive outbreaks. From the 1st to the 20th she received 60 grains of bromide daily and then did not receive further bromide during the remainder of the month. During February for a period from the 3rd to the 5th she required 90 grains daily, but she did not require further bromide up until the end of the observation period, June 15, 1927.

Since the discontinuance of treatment although somewhat irritable for short periods, she has remained cooperative, has been use-

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fully employed and appeared to take some interest in her work. Has taken better care of her personal appearance and has only on rare occasions wet her bed. She has not torn her clothing nor has she destroyed any ward fixtures. Her condition is considered much improved.

CASE 11. B. M. Age 47. Alcoholic psychosis. This patient had been in a hospital for over 16 years at the time treatment was begun.

She was deteriorated, destructive of her clothing and ward fixtures, at times very noisy and abusive, particularly at night, or if crossed in any way.

Bromide treatment was started on June 15, 1926, and she received 30 grains daily for the remainder of the month with no appreciable change. During July 90 grains were given daily and toward the end of the month she was quieter, more cooperative, not destructive and was doing some polishing. During the first two weeks in August she did not receive bromide but there was a gradual reversion to her former habits. So for the remainder of that month and the following month she received 60 to 90 grains daily gradually becoming less destructive and more cooperative. During the next three months the patient remained quiet, cooperative, more agreeable and less destructive while receiving an average of 30 grains daily. During January she did not receive bromide and there was a gradual reversion to her former bad habits. During the next two months she received an average of 60 grains daily and again gradually improved. During April she became very disturbed, was very untidy, destructive, noisy, assaultive and resistive. From the 1st to the 8th she received 90 to 180 grains daily. She was quieter following this and received 90 grains daily up until the 13th when bromide had to be again increased and until the 19th she received 180 to 240 grains daily following this she appeared somewhat groggy and did not receive further bromide up until the end of the observation period, June 15, 1927.

Following her groggy spell in April she remained quiet and cooperative, was not assaultive or resistive. She took some interest in her environment and did some light work about the ward. Her condition is considered as improved.

CASE 12. R. I. Age 32. General paralysis, cerebral type. This

patient had been in the hospital for 4 years at the time treatment was begun.

She was seclusive, apathetic, deteriorated, taking little if any interest in her environment and at times had to be assisted in dressing and undressing. Was noisy, shouted and screamed, using at times vile language; pounded herself about the head and pulled her hair.

Bromide was started on December 14, 1926, and from then until the end of the month she received 90 to 120 grains of bromide daily. At the end of this period she had ceased pounding herself and was less resistive. During January she still continued in an improved condition and received 60 grains daily. During February with the exception of a period from the 13th to the 21st when there was a partial return to her former habits and she received 120 to 180 grains daily, she did well on 60 grains daily. During March she still continued improved on 60 grains daily. During April with the exception of a period from the 6th to the 8th when she received 120 to 180 grains daily she did well on 60 grains daily. During June up until the end of the observation period, June 15, 1927, she was doing well on 30 grains daily.

She still at times has short periods during which she pounds herself, pulls her hair, is noisy and profane but these are less severe, are shorter in duration and the intervals are much longer. She is much less resistive and rarely has to be assisted in dressing. She does some polishing on the ward and at times simple work for the occupational therapy department. Although she still requires a small daily dose of bromide her condition is considered as improved.

CLINICAL RESULTS

Of the 69 cases of dementia praecox treated 51 showed varying degrees of improvement, 18 were unimproved. In the manic-depressive group the 3 cases treated all showed a varying degree of improvement. In 6 other cases of functional psychoses treated, 4 showed varying degrees of improvement and 2 were unimproved. In the organic group of 8 cases treated, 5 showed varying degrees of improvement and 3 were unimproved. It would appear from the above that the greatest percentage of improvement fell in the manic-depressive group. However, this would be expected as the make-up

in these individuals is of the extrovert type. Although a relatively smaller percentage of improvement was noted in the dementia *præcox* group, the majority of the much improved fell in this class; 11 cases to 1 in other forms of psychosis. The results in dementia *præcox* were found to be more lasting, many cases having risen from the vegetative level to a level in which they were taking considerable interest in their surroundings and were usefully employed; some have shown only partial regression, others no regression toward their pre-treatment state. In the other forms of functional psychoses treated the percentage of improvement was about equal to that found in the dementia *præcox* group; however, the results were not so lasting. In the organic group as might be expected, results were not so gratifying. Some improvement, however, was noted during treatment but no lasting results were obtained.

An extremely valuable adjunct in the treatment was afforded by the occupational therapy department. Patients under the influence of the drug were found to be more accessible and they were taught useful occupations, these being directed as much as possible along the lines which appeared to be most adaptable to the patient. In many cases they continued at useful occupations long after treatment had been discontinued; in other cases either small doses or doses at intervals were all that was required.

CONCLUSIONS

1. Of the 86 cases treated, 63 showed improvement, 23 were unimproved.
2. During the first and fourth month more cases lost than gained in weight, while during the second and third month more gained than lost.
3. In only 10 cases was there an incidence of bromide rash and these rapidly cleared up with the administration of Fowler's solution. In only 2 cases was there oedema of the lower extremities. There were no other untoward effects except mild bromide intoxication which rapidly responded to treatment. There were no deaths.
4. Cases which had regressed to the vegetative level (untidy, assaultive, etc.), were improved so that they became actively

engaged in useful work; thus the care of the worst class of patients was made much less of a problem.

5. In no case was it considered that bromide had hastened the progress of deterioration.

6. Greatest lasting improvement was found in the cases which fell in the group of regressive psychoses and so called conduct disorders.

7. Under careful supervision bromide is a safe form of treatment.

8. From the results obtained in this group bromide has been shown to be a valuable therapeutic measure.

TRYPARSAMIDE TREATMENT OF GENERAL PARALYSIS

A Second Report

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In a former communication* we summarized our experiences with respect to the tryparsamide treatment of general paralysis as they appeared to us approximately three and one-quarter years after we had begun to employ that form of therapy. We were able to report on the results achieved in a series of 69 patients, made up of 53 women and 16 men, all of whom had been treated between July, 1923, and May, 1926, a period of two years and ten months. The present report constitutes a second review of the same series of 69 patients and is written five years after the beginning of treatment. This does not mean that all patients had their treatment five years ago; in by far the largest number of instances the major portion of treatment was given on the average not less than three years ago.

For a more complete survey of the nature of the material at our disposal one is referred to the first article. Suffice it to mention here that all were patients with general paralysis of the acquired form and all had been committed as insane.

As regards the clinical outcome of this series of 69 patients, we have compared the results given in the first report with those of the second and present report, to wit:

	First report, per cent	Present report, per cent
Remissions	30	28
Improved	22	26
Unimproved	20	12
Dead	28	34

Because we are unable to investigate the current statutes of two of the original 69 patients, this second report is based on the findings in 67 patients. The two patients whose present condition is unknown to us had previously been regarded as having attained a complete remission. Since our first report was issued changes in the clinical condition of several of the patients have taken place and have necessitated a regrouping. On the whole, however, the

* Tryparsamide Treatment of General Paralysis. G. H. Kirby, M. D., and L. E. Hinsie, M. D. STATE HOSPITAL QUARTERLY, XII:53, (Nov.), 1926.

changes have not been particularly striking. It is our impression that, after a patient has undergone tryparsamide treatment to the extent of 40 or 50 injections (3.0 grams per dose), as a rule the maximum clinical benefits are reached. Patients may continue to improve thereafter, but it is not at all certain that further progress, which is usually slight, has much to do with tryparsamide itself. It is entirely probable that after the processes of general paralysis have been arrested by the drug the re-educational therapeutic measures (to be spoken of later) may be of decided advantage in the production of restoration toward the patient's pre-paralytic status. We believe that this circumstance has played a rôle of no small importance in many of the patients who progressed from the level of unimprovement to improvement or from improvement to remission. One observes that the greatest variation occurred in that group termed unimproved, the percentage changing from 20 per cent to 12 per cent. Many who had previously been regarded as unimproved have since adapted themselves in a satisfactory manner to hospital life and have become useful workers at simple tasks, though they still exhibit more or less pronounced intellectual deterioration.

Tryparsamide appears to accomplish end results that are similar to those seen in patients who have received malarial therapy, in that there seems to be what is for descriptive purposes best referred to as an "arrest" of the disease process. After this stage has been attained an opportunity is afforded for the recovery of those functions that had been held in abeyance while the paralytic processes were active. Cerebral tissues that have been destroyed as a result of the infectious agent are not regenerated, but means have to be found to circumvent the defects and thus to restore the patient as much as possible to his former capacities. To accomplish that end we have resorted to the full use of occupational measures. As soon as a patient is able to engage in any useful procedure, he is sent to a class in occupational therapy. Since 53 of our 69 patients were women, our experience has, of course, been greater with that group and we are able to report that to us occupational therapy has been a big aid in the preparation of patients for return to their homes. We recognize in those patients who reach a stationary and quiescent stage a rough parallelism with the feeble-minded, who are

educable to certain levels. Indeed, their difficulties are essentially defects in the emotional reaction and the sphere of apprehension, ordinarily not sufficiently severe to preclude the probability of re-education to a fair degree. Thus in many instances we have elevated patients from the unimproved to the improved group. This, to be sure, could not have occurred as frequently as it did unless the original disorder had been arrested.

Within the past decade we have been obliged, as a result principally of the application of malaria and tryparsamide, to take a new attitude toward patients with general paralysis. This has been alluded to in the foregoing with respect to patients in the hospital, but applies equally as well to those who are returned to the community. It is now generally conceded that the most tractable and cooperative group that leaves the hospital comprises the general paralytics. They are far less likely to get into difficulties of an anti-social character; they respond promptly to advice regarding their activities; they are grateful for the treatment accorded them; and, as a class they possess good insight into their capacities.

Four patients of the group of 69 have died since the first report was issued. The total number of deaths is therefore 23. Of the 23, 15 died within six months of the beginning of treatment. By far the greater proportion of the 15 did not live long enough to receive what we have tentatively regarded as a minimum amount of treatment. Eight patients died six months or more after treatment had begun; three died four years later; three died three years later; one died two years later, and one nine months later. In no instance can it be said with any degree of certainty that the treatment was associated with the cause of death. It is now well known that tryparsamide is relatively innocuous, save for the probability of ocular complications. In all but one case death was regarded as due to the cerebral lesions of general paralysis, independent of the temporal relationship between death and the stage of treatment. In the one excepted case death ensued by nephritis two years after the cessation of treatment.

At the time of our first report 48 per cent of the patients then living were at home. At the present time among the 44 patients, who are living, 24 (almost 55 per cent) are at home. In addition we have five more patients who we believe would be able to adapt them-

selves satisfactorily to home situations, if the home environments were the same as they had been before the patients developed the symptoms of general paralysis. Each of the five is much improved and is running a stationary course, but following admission to the hospital, their homes have been discontinued. As the situation now presents itself, since tryparsamide therapy has been employed, that is, after almost five years now, 55 per cent of the patients treated are at home and, if circumstances unrelated to general paralysis itself were favorable, the percentage could be raised to 66.

Those patients who are regarded as "unimproved" form an interesting group, if for no other reason than because for upwards of an average of four years they have continued a more or less stationary course. Even in this group we are strongly inclined to the belief that an arrest of the disease process has been made, but that the damage antedating the administration of treatment was too severe to allow of the subsequent utilization of uninjured faculties. Re-education in their cases was not available. Furthermore, in support of the belief that the treatment has been beneficial, it may be mentioned that each of the eight "unimproved" patients is ambulatory. Since this form of therapy has been used (and the same holds true for patients treated by malaria) it is very unusual in our experience to see trophic lesions in patients who have lived long enough to receive adequate treatment. By the expression "adequate treatment" we mean not less than 40 injections of tryparsamide or approximately 120 grams.

We feel that we are in a position to state more precisely now than previously what we consider to be the average quantity of tryparsamide that will probably give the optimum results. It may be assumed that from 40-50 doses of 3.0 grams each are sufficient to insure what we have termed "arrest" of the disease process. Arrest is frequently attained before the administration of such quantities; and it is unusual in our cases to witness much improvement after 40 or 50 doses, though in certain instances, it is seen. We are, of course, speaking of clinical improvement. This is mentioned because we do not want to confuse the issue with serologic improvement.

SEROLOGY

Ordinarily with time the blood and spinal fluid Wassermann reactions tend to become negative. Complete negativity in the blood

is the rule and often occurs early in the course of treatment, whereas a similar condition in the spinal fluid is less easily and less frequently achieved. Bunker, from a study of the male patients treated at the Psychiatric Institute, expressed the opinion* that "consistent results were scarcely obtained with fewer than 80 injections of tryparsamide of 3 gm. each." As already mentioned the present series of cases is comprised mainly of female patients. Whether sex plays a certain rôle in the results obtained is still a question. We feel that we can state that the quantity of treatment above a general average of 40 or 50 doses is not necessarily provocative in the further reduction of Wassermann positivity, because we have frequently observed that there continues to be improvement long after treatment has been terminated (after the administration of 40-50 doses). An example of this type of response is given in Chart I.

CHART I. SEROLOGY OF A PATIENT

	Blood	Spinal fluid			Globulin	Cells	Gold curve
		0.2	0.5	1.0			
<i>Before Treatment</i>							
Dec. 11, '23..	+++	+++	++++	++++	+++	22	
Jan. 15, '24..	++++	++++	++++	++++	++++	9	
<i>During Treatment</i>							
Mar. 11, '24..	—	—	+++	++++	+++	5	5555532100
April 8, '24..	—	—	+++	++++	+	6	4544332100
June 2, '24..	—	—	+	++++	++	1	5554321100
June 17, '24..	—	—	++	++++	±	0	5555431000
Aug. 18, '24..	—	—	—	++++	—	0	5543321000
Sept. 20, '24..	—	—	—	++++	±	1	5544321000
Nov. 11, '24..	—	—	—	++++	±	3	5554432100
Feb. 10, '25..	—	—	—	+	—	1	5554332100
<i>After Treatment</i>							
May 19, '25..	—	—	—	+++		8	4543321000
Sept. 8, '25..	—	—	—	++	±	0	5443321100
May 17, '26..	—	—	—	±	+	3	
Nov. 9, '26..	—	—	—	—	+++	0	
Aug. 23, '27..	—	—	—	—	++	2	4433321100
June 12, '28..	—	—	±	±	+	0	1123321000

* Effect of One Hundred Injections of Tryparsamide Upon the Spinal Fluid in General Paralysis.
H. A. Bunker, Jr. Am. Jour. Med. Sci., CLXXV, 265, (Feb.), 1928.

The patient whose serology is exhibited in Chart I attained a state of clinical remission. One observes that the Wassermann reaction in both the blood and spinal fluid showed an immediately favorable response after the first course (8 injections) of tryparsamide. For three years and three months now the blood Wassermann reaction has continued negative. The spinal fluid Wassermann reaction began to improve directly and became almost completely negative after 40 doses of 3.0 grams each. The fluid was essentially negative one year and three months after the completion of treatment and has continued essentially negative since, that is, for over two years. It is interesting also to observe that the colloidal gold curve has been appreciably reduced.

An example of the more resistive type of Wassermann reaction, but one that eventually yielded to negativity, is seen in Chart II.

CHART II. SEROLOGY OF A PATIENT

	Blood	Spinal fluid			Globulin	Cells	Gold curve
		0.2	0.5	1.0			
<i>Before Treatment</i>							
Oct. 14, '24..	++++	++++	++++	++++	++	10	
Oct. 29, '24..	++++	++++	++++	++++	+	29	
<i>During Treatment</i>							
Nov. 5, '24..	++++	++++	++++	++++	+	24	5555554321
Dec. 23, '24..	+++	++++	++++	++++	+++	21	4554432100
Mar. 3, '25..	+	+++	++++	++++	++	0	5555543210
Mar. 17, '25..	++++	++++	++++	++++	+	8	5544321000
May 11, '25..	++++	+	++++	++++	+	9	4554432100
May 26, '25..	-	+	++++	++++	++	1	2544332100
July 21, '25..	++	-	++	++++	+	8	5544332000
<i>After Treatment</i>							
Nov. 2, '25..	+	-	-	+++	+	0	4443211100
Feb. 3, '26..	++	-	-	++	+	2	
June 8, '26..	±	-	-	±	-	4	
Oct. 11, '26..	±	-	-	+	+	5	
June 21, '27..	-	-	-	-	+	1	1223211000
June 12, '28..	+++	-	-	+++	++	2	5443310000

Chart II refers to a female patient whose clinical condition improved during therapy, but who remains in a stationary condi-

tion, with prominent intellectual deterioration. She received a total of 40 intravenous injections of tryparsamide, 3.0 grams per dose. The Wassermann reaction in both the blood and spinal fluid continued positive for several months during the treatment phase, but eventually showed a reduction. Both became essentially negative a little over one and a half years after treatment had been started. Complete negativity was attained within two and one-half years. In June, 1928, a little over three and one-half years after the beginning of treatment the Wassermann findings had become intensified. At one time the gold curve was considerably reduced.

In a few instances there is an early and complete return to high positivity after the Wassermann reactions have been rendered negative. This situation has been interesting to observe, particularly in comparison with the clinical condition of the patient. In the literature one finds many references to the absence of definite correlative factors between these two features. We present the chart of this patient to show that progressive clinical improvement may be gained and attained in spite of the intensification of the Wassermann reactions. This patient has been in a phase of clinical remission now for over three years, during which time the blood and spinal fluid Wassermann reactions have varied from an almost completely negative response (March 10, 1925) to a very highly positive one (June 12, 1928). She had received in all 32 doses of tryparsamide.

CHART III. SEROLOGY OF A PATIENT

	Blood	Spinal fluid			Globulin	Cells	Gold curve
		0.1	0.2	0.5			
<i>Before Treatment</i>							
Aug. 24, '23..	++++	++++	++++	++++	+		12
Aug. 31, '23..	++++	-	++++	++++	++		8
<i>During Treatment</i>							
Sept. 28, '23..	-	++++	++++	++++	++++	11	
Nov. 13, '23..	-	-	-	++++	+++		5
Feb. 26, '24..	-	-	-	+++	++	1	3334443110
Mar. 25, '24..	-	-	-	++++	+++	0	5555553210
June 9, '24..	-	-	-	++++	+++	0	5554321000
Aug. 18, '24..	-	-	-	++	+	0	5544332100
Nov. 5, '24..	-	+	++++	++++	+	0	5554432100
Dec. 16, '24..	-	-	+	++++	++	6	5555532100
Mar. 10, '25..	-	-	-	±	-	5	5544321000
July 14, '25..	++			++++	++++	4	5544310000

After Treatment

Oct. 6, '25..	++	±	++++	-	5	3332111000
Feb. 23, '26..	+++	+++	++++	++	0	
May 10, '26..	+++	+++	++++	++	1	
Jan. 11, '27..	++++	-	++++	++	4	4333321000
Aug. 7, '27..	++	-	++++	++	1	5555543210
June 12, '28..	+++	++++	++++	++	0	5544444210

Six of the female patients who had attained a stationary clinical condition under the influence of tryparsamide and mercury were later given a course of malarial therapy. In no instances were there any clinical alterations in the patients' condition. This is not surprising in view of the reports* of malarial treatment in female patients with general paralysis. There is, however, reason to believe that it may not be advisable to administer malaria following tryparsamide, not alone because further clinical progress is not likely to occur, but particularly because malaria in the few instances at our disposal has served to intensify the Wassermann findings. Is the intensification merely coincidental? It may be, but we are inclined to believe that the malaria is in some way responsible for it, especially in view of the relative frequency with which the situation was observed.

In the subjoined Chart IV are recorded the changes that took place in the blood and spinal fluid reactions under (1) tryparsamide and (2) under malarial treatment. The patient had received 40 injections (3.0 grams per dose) of tryparsamide, following which the Wassermann reactions in both the blood and fluid were considerably reduced. Not long after she had received malarial therapy there was a return to high positivity, which has persisted now for almost three years. Moreover, following malaria the colloidal gold curve had the distinction of being at its highest and lowest levels. Clinically the patient achieved improvement during tryparsamide treatment and has remained stationary since. She is now receiving further tryparsamide therapy.

* See: *Malarial Treatment in Female Patients with General Paralysis.* L. E. Hinsie, M. D.

CHART IV. SEROLOGY OF A PATIENT

Blood	Spinal fluid			Globulin	Cells	Gold curve
	0.2	0.5	1.0			
<i>Before Treatment</i>						
Feb. 19, '24..	++++	++++	++++	++++	+++	4
Mar. 4, '24..	++++	++++	++++	++++	++	0 5555432100
<i>During Tryparsamide Treatment</i>						
April 29, '24..	—	++++	++++	++++	++	3 5555321000
July 18, '24..	—	—	++	++++	++++	1 5555331100
Aug. 19, '24..	—	—	++++	++++	+	1 5554321000
Oct. 7, '24..	+	—	++++	++++	+	3 5555432000
Nov. 5, '24..	±	+++	++++	++++	+	0 5555432100
Dec. 30, '24..	—	—	++++	++++	+	5 5544332100
Jan. 13, '25..	—	—	±	++++	++	4 5555532100
Jan. 27, '25..	—	+	+++	++++	+	5 5555432100
Feb. 3, '25..	+	—	++	++++	++	0 5555432100
Mar. 31, '25..	—	—	+	++++	±	0 4555432100
April 30, '25..	—	—	—	++++	±	0 5543321000
<i>Malarial Treatment During May, 1925</i>						
June 9, '25..	—	—	±	++++	+	0 5555532100
Sept. 8, '25..	++++	++++	++++	++++	+	0 5554321000
Dec. 8, '25..	+++	++++	++++	++++	++	1 5554321000
June 8, '26..	++++	++++	++++	++++	++	0
Oct. 11, '26..	++++	++++	++++	++++	+++	1
June 21, '27..	++	++++	++++	++++	—	2 5555443320
Mar. 13, '28..	+++	++++	++++	++++	+++	0 5555554320
June 19, '28..	++++	++++	++++	++++	+++	0 5554444310

SUMMARY

The present communication constitutes a second report on the results attained in the treatment of general paralysis by a combination of tryparsamide and mercury, five years having now elapsed since the treatment of this series of cases was started. Of the 69 patients referred to in the first report the present status is known in 67 patients.

Of the 67 patients 28 per cent gained and have maintained a state of remission; 26 per cent are regarded as improved; 12 per cent as unimproved; 34 per cent of the patients are dead.

TUBERCULOSIS AS AN ETIOLOGICAL FACTOR IN PRODUCING NEURASTHENIC SYMPTOMS

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For several years there has been close cooperation between the Yonkers Tuberculosis Dispensary and the Hudson River State Hospital Out-Patient Clinic, held bi-monthly at Yonkers. During these years, many cases have been referred from one clinic to the other. Sometimes the cases were sent to us from the dispensary because of nervous symptoms but very often we referred cases to the dispensary for chest examination and X-ray because nervous symptoms were found which it was thought might have been released by or originated in physical disease. It is a group of these cases, where tuberculosis was diagnosed that will be reviewed in this paper.

In all, 29 cases, will be considered. Of these 18 were female and 11 male. No cases were past middle life. The oldest was 45 years of age and the youngest 8. Sixteen cases fell between the ages of 15 and 35. There were five cases under 15 years of age.

As to the diagnoses *made*, 15 were placed in the psychoneurotic group, 9 of these being of the neurasthenic type and the remaining 6, of the psychasthenic or mixed type. However, neurasthenic symptoms were also prominent in these. There were five cases diagnosed, dementia *præcox*, but three of these suffered very definite neurasthenic symptoms. One of these was described as fearful and afraid, nervous and anxious while another was worrisome and at times subject to dizzy spells and nervousness, yet auditory hallucinations were persistent. The third case was confused and worrisome and forgetful, yet because of his indifference at the clinic and for other reasons, it was thought best to emphasize the schizophrenic part of the reaction.

There were four cases of mental deficiency and no neurasthenic symptoms were noted in these. Two of the male cases, ages 11 and 14 showed sexual precociousness. Of the three cases classed as psychopathic personality, one was subject to "hysterical attacks" and one of the remaining two was irritable, emotional, could not sleep and had other neurasthenic symptoms. One case of chorea

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needs no comment but the last case designated as a simple depression was very definitely neurasthenic and probably would have been better so classified.

In regard to the stage of advancement of the tubercular process, it is to be noted that advanced cases were strikingly absent. Only seven cases were having symptoms indicating a very active process which made diagnosis of the condition possible without careful consideration of the history of the case together with repeated chest and X-ray examinations. As far as could be ascertained, no relationship was found between the severity of the tubercular process and the severity of the nervous symptoms.

The most common symptoms of which these patients complained will be given in their order of frequency:

	Number of cases
1. Nervousness	16
2. Inability to sleep	15
3. Tendency to worry	15
4. Feelings of fear	11
5. Tendency to cry	12
6. Irritability	12

Besides the above enumerated symptoms, many others were complained of, but none with anywhere near the same frequency as those already mentioned. Five were "easily excited", seven were restless or anxious, four were confused and unable to concentrate, three were forgetful, five had disturbing dreams, four delusional ideas (two of the latter were delusions of infidelity in impotent men). Several complained of headache or pressure feelings in the head. There were other symptoms such as easy fatigability, dizzy or fainting spells, tremors, etc., which may have been of physical rather than of a psychogenic origin although it was quite difficult to decide in many instances.

The Neurasthenic Syndromes: The psychoneurotic cases will next be considered. As has already been mentioned 9 of the 15 cases showed marked neurasthenic symptoms such as nervousness, inability to sleep, tendency to worry, feelings of fear, tendency to cry, irritability and inability to concentrate and subjectively a bad memory along with other symptoms. The remaining six showed also these symptoms in varying degrees but by a study of the cases one

was able to demonstrate one marked difference—the presence or absence of a feeling of fear. This is a most interesting and important difference and one which demands attention. Bleuler in his description of *actual neurasthenia* does not place fear among its symptoms; he does, however, mention it among the important symptoms of *pseudo neurasthenia* which he believes to be of a psychic genesis although he does concede that the mechanisms may be released by physical disease. Freud hints that "fear springs from the libido" and that "it represents the flight of the ego before the libido". With due regard for the above theories, the two groups, i. e., those with fear and those without fear, will be discussed.

The Actual Neurasthenic Group (without fear): There were six cases of the psychoneurotic group in which no evidence of fear was manifest, that is, no feeling of fear, no frightful dreams, no phobias. Irritability, insomnia, depressive tendencies and many physical complaints, such as indigestion and constipation were constant. There was an entire absence of any symptoms pertaining to sex. *All of these cases with one exception were married women with families with evidently a satisfactory sexual life.* The one exception was a girl, 11 years old.

The Pseudo-Neurasthenic Group (with fear): Nine of the 15 psychoneurotic cases suffered from feelings of fear, fearful dreams or phobias. One man suffered a fear that he was going to be harmed at night. A woman kept her husband at home because she was afraid of a "nervous spell" in which she imagined she would die. Another man was afraid to go into a crowd and feared he would die in the dental chair if he had some teeth removed. A girl feared that her mother would fall and fatally injure herself. Still another woman suffered a terrible fear of fainting in a crowd—"of going into a coma", and lastly a girl of 20 years was afraid of high places and suffered frightful dreams.

Along with the fear, insomnia, was a frequent symptom. Several of these patients awoke at a certain time each night (often from 2 to 4 a. m.), sometimes with feelings of fear. Headaches and pressure symptoms in the head, nervousness, fainting attacks, anxiety, impotence, depression of the emotions, increased sexual desire and other symptoms were observed, some of which had a sexual coloring. One girl said she was not so nervous when she was constipated

(autoerotic satisfaction). Another, that she dreamed she was in New York *alone* (away from those who knew her and free to do what she chose). The mind of one man dwelled much upon sexual things: he "lusts much after women but curbs it all, etc." It is most interesting to note that of these nine cases having fear that *five were single* and did not have their sexual desires gratified as far as is known and that of the four remaining who were married, one man did not live with his wife, one man was impotent, one woman claimed she was too weak to enjoy sexual intercourse and permitted it only to satisfy and please her husband, but the married life of the fourth was described as congenial. These facts seem apparently to indicate that the origin of the fear may be in some way connected with the libido.

Treatment and Its Effect: It is indeed unfortunate that the outcome of only a few of the cases is known and this only to a limited extent. Of the first group of six cases, no return visits to the clinic were made and little is known about them. Of the second group of nine cases, six patients made return visits and three showed marked improvement, two some improvement, and one no improvement in either physical or nervous symptoms.

The treatment in all cases was concerned mainly in improving the patient's physical condition. With this in mind, all of the cases were directed to seek treatment for their tubercular condition either in the home under the supervision of a nurse from the dispensary or in hospitals for such cases. Social service agencies and employers were asked to assist, when necessary. Financial and other aid was also secured for some.

CONCLUSIONS

1. Tuberculosis frequently produces neurasthenic syndromes and may also produce neurasthenic symptoms in other biogenetic reactions.
2. In this review of cases, the most common symptoms complained of were "nervousness", inability to sleep, tendency to worry, feelings of fear, tendency to cry and irritability.
3. Two groups were differentiated. First: A group in which fear and symptoms suggesting sexual repression were absent. Second: A group in which fear and symptoms suggesting sexual repression were present.

4. The first group was composed of married individuals having what appeared to be a satisfactory sexual life. The second group, was composed of unmarried persons or married persons who were not having sexual satisfaction or could not for various reasons.

5. This study suggests that feelings of fear may be connected with an ungratified sex impulse.

6. As far as could be ascertained, there was no relationship between the severity of the physical symptoms and the severity of the mental symptoms.

SOME LABORATORY FINDINGS IN EPILEPSY*

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As the title implies this paper will be confined to a consideration of some of the laboratory findings in epilepsy and will, therefore, be restricted to the brief discussion of a number of the more salient features of laboratory procedures to which recourse is generally had in the study of this disorder, namely: urinary findings, blood picture and biochemistry, spinal fluid changes, protein sensitization and post mortem observations. It should be borne in mind that these findings, while interesting and often significant, are not altogether peculiar to the condition we are describing.

The occurrence of albumin and casts in the urine of epileptics after seizures has been well substantiated by the observations of Munson¹ and others. The initial appearance of albumin may be at any time within the first two hours after the attack and it may not disappear until the fourth day. The presence of albumin is almost invariably associated with the finding of casts, sometimes in great number and variety, although, as might be expected, cellular varieties are rare. So extreme is the microscopical picture presented in some of these cases that, had the excretion been received at the laboratory without clinical data, it would naturally have been supposed that the urine was from a case of severe nephritis. In fact, as the seizures continue, chronic changes in the kidney due to repeated congestion may be induced. This condition of the appearance of albumin and casts in the urine is found in about 20 per cent of epileptics and is known as post-epileptic albuminuria.

The literature is somewhat controversial in regard to the blood pictures encountered in epilepsy. Generally speaking, the older accounts characterize it as a moderate secondary anemia with constant eosinophilia and lymphocytosis, both of varying degree, and a rise of the leucocytes during the seizure with a subsequent gradual decline. In our own observations, we have found the blood picture to be quite variable. Many patients exhibit a moderate to high² leucocytosis during the interparoxysmal period as well as during the attack without any discoverably foci of infection. On the other

* Read before the Quarterly Meeting of the Wyoming County Medical Society at Warsaw, New York, October 25, 1927.

hand, a relatively small number show a persistent leucopenia. Lymphocytosis is generally present but the ratio between large and small lymphocytes is disturbed, the former appearing in larger numbers than would normally be anticipated. Eosinophilia is usually present in varying degrees. A peculiar and interesting finding is the occurrence of considerable numbers of a degenerated form of white cell, which is infrequently found in the normal blood, so far as we have been able to determine. Contrary to the apparently prevailing conception, in our observations we do not always find a secondary anemia. Although anisocytosis or cell distortion is quite common, polycythemia or hyperchromemia, an increase in the number of cells or the amount of haemoglobin in the individual cell respectively, is often found. The blood platelets seem to tend to disintegrate with unusual rapidity and (perhaps for this reason) the bleeding time is prolonged and the coagulation time delayed.

In regard to the biochemistry of the blood, Wuth³ says that the chemical constituents of the blood are altered during convulsions. Non-protein nitrogen, uric acid, creatinin and serum protein show an increase of varying degree. Often, especially in light attacks, they do not exceed, or at least not so much, the so-called normal limits, but they do exceed what he calls the normal individual limit, i. e., the blood content value is higher during attacks than in the interim for a given individual. With the higher values sometimes found, it is important to bear in mind that these high values may be produced by the convulsions alone to avoid mistaking such cases for uremia; however, in the latter condition, with nitrogen retention and insufficiency of the kidney, there would probably also exist hypertension in the intervals between convulsions. Wuth believes that the high values which may be obtained for non-protein nitrogen, uric acid and creatinine during convulsions are due not only to retention but also to an increased disintegration of body material. In this connection, it must be borne in mind, however that the same blood changes take place in convulsions of totally different origin as, for example, cerebrospinal lues, arteriosclerosis, general paresis and cardio-vascular-renal disease.

In our own studies we found the blood sugar content generally to be low. This is an interesting observation when one recalls the convulsions following the use of insulin where a hypoglycemia has

been induced. On the other hand, despite the apparently close relation between tetany and epilepsy, our investigations⁴ have not revealed any deficiency in blood calcium—even in two rachitic epileptics included in our series.

In a study⁵ of the spinal fluid in a series of 50 epileptic individuals, the pressure, measured by a mercury manometer, was usually found at the upper borderline of the normal and was much influenced by external mechanical factors (conditions external to the central nervous system), rising as much as 100 per cent, for example, in some cases of coughing. The cell count, albumin, globulin, chloride and urea contents were all within normal limits. The absolute sugar value was low, as in the case of the blood sugar content. In every instance except one the content of sugar in the fluid was lower than that in the blood and these two values were independent of each other.

In testing 1,000 epileptics, by means of skin tests, for their hypersensitivity to 60-70 different protein foodstuffs, it was found (6, 7) that protein sensitization occurred in from 37 to 58.8 per cent of the patients tested as compared with an incidence of 8 per cent among non-epileptic controls tested with a number of the same protein extracts. This would indicate that quite a number of epileptics are sensitized to one or more proteins. The exact significance of the ratio of the percentage of positive reactions in epileptic and non-epileptic individuals remains to be determined but the greater incidence among the former suggests a possible defect of protein metabolism in these cases.

Because of the close and persistent association of the two conditions in the lay mind this paper would seem incomplete without a reference to the relationship existing between syphilis and epilepsy. The occurrence of epilepsy among our patients as determined by the Wassermann test (and also by clinical examination) is very low (8 per cent). In those cases admitted to the institution during the last eight years, its incidence has fallen under five per cent and this number includes the not infrequent number of cases, where the relationship is coincidental rather than etiological.

Autopsy frequently fails to disclose any constant gross abnormality in the central nervous system. When such abnormalities occur,

however, the pathological defects most frequently encountered are microcephaly, hemiatrophy, chronic internal hydrocephalus, focal cerebral softening and brain tumors (often osteoma of the dura). But similar pathological conditions are also found in the feeble-minded and the insane and are, therefore, not pathognomonic of epilepsy.

From this brief survey of some of the laboratory findings in epilepsy, it is obvious that in this condition, as perhaps in a number of others, while much has been done, much more still remains to be done before a solution of the problem can be achieved.

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COURSE IN MENTAL HYGIENE AND CHILD GUIDANCE FOR SCHOOL NURSES AND DENTAL HYGIENISTS

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In February, 1928, the Medical Inspection Bureau of the New York State Department of Education asked me to give thirty hours on Mental Hygiene as a part of a post-graduate summer course for school nurses and dental hygienists, who were preparing to qualify for certification as "School Nurse Teachers" and "Dental Hygiene Teachers". These were nurses and dental hygienists who had graduated from general hospital training schools or dental hygiene schools, and who had had several years' actual experience in school work, but who for the most part had received no psychological or psychiatric training. It was thought that while their undergraduate work had given them an ample background on the physical side for the "health education" work that they were to carry on in the State public school system, they were decidedly lacking in training on the mental side. This course therefore, was to be both elementary and comprehensive. They were to be given the psychology of normal childhood, the development of personality, the principles of child training and the behavior disorders of childhood; all from the viewpoint of the furtherance of mental health and the prevention of mental maladjustments in the school child. Realizing how potent a part the psychiatrically-informed teacher, (and through her the parent) may play in the prophylaxis of mental disease, and thinking that it would not be especially difficult to gather material for such a course, I readily consented. However, when I attempted to crystalize my ideas I found it quite perplexing to decide upon just what to give and what to omit, and what to stress, of all that modern psychiatry and the various psychologies of today had to offer to the teachers of physical and mental health in a public school. While I was aware that various courses on Mental Hygiene were given to parents, teachers, social workers, etc., I could not find among the available textbooks or medical literature any reference to a group such as this, and so was obliged to improvise an outline which I thought would meet their particular demands. I offer the outline below realizing that it undoubtedly

has the crudities and shortcomings inherent in first efforts and I hope that others will favor me with their criticisms and suggestions.

COURSE IN MENTAL HYGIENE

I

The necessity of a knowledge of psychology and mental hygiene; objectives of the course; (a) to aid child to maintain healthy adjustment; (b) to observe and describe early deviations; (c) to adjust early and minor deviations; (d) to supply information to psychiatrist; (e) to cooperate with psychiatrist in treatment; (f) to help the teacher gain insight into her own mental mechanisms. The nature and scope of modern psychology. The reaction hypothesis of human conduct.

II

The anatomy and physiology of human conduct. The neurons, receptors, connectors and effectors. The old and new brain. The ductless glands. Heredity versus environment.

III

Stimulus-response (S-R) bonds. Classification of habits. Habits versus instincts.

IV

The basis of new habits. The physiology and psychology of learning. The essential habits. The elimination of bad habits.

VI

Quiz.

VII

Discipline and the reaction hypothesis. Old versus new notion of child discipline. Rewards. Punishments.

VIII

Intellect habits (cognition). Perception. Ideation. Language.

IX

Memory. Forgetting.

X

Imagination. Imagination and child guidance. Phantasies of childhood, normal and abnormal.

	XI
Quiz.	XII
Reasoning. Rationalization.	XIII
Habits of feeling (affection).	XIV
Habits of action (conation).	XV
Temperament. Personality. Conscious and unconscious motives.	XVI
Quiz.	XVII
The child's moral development.	XVIII
The adolescent period.	XIX
The mental defective.	XX
The intellectually superior.	XXI
Quiz.	XXII
The "nervous" child.	XXIII
Organic nervous diseases and child conduct.	XXIV
Personality types. Borderline states.	XXV-XXVI
The psychoses of childhood.	XVII-XXVIII
The prevention and treatment of delinquency.	XXIX
Literature and child guidance.	

XXX

General quiz.

In presenting the various topics, I did not slavishly limit myself to one school of psychology or psychiatry, but gave from all (as the bibliography will indicate) whatever I found useful in my own experience in handling child problems.

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THE INFLUENCE OF GENERAL PARALYSIS ON THE FAMILY

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The advisability of testing each member of a family, in which there is one or more with a positive Wassermann reaction, is well substantiated by the results attained by such a procedure. It is all the more urgent to do so, when the syphilitic member has neurosyphilis, if for no other reason than because syphilis of the nervous system seems to be more highly resistive to therapy than is syphilis in other systems of the body. But, the results achieved by early treatment also make it incumbent upon us to do all that we can to detect and treat the patient as promptly as possible. Since the introduction of specific and non-specific remedies in the treatment of parenchymatous neurosyphilis, particularly of general paralysis, not only the psychiatrist and neurologist, but also the general practitioner, have rapidly assumed a new attitude toward general paralysis and the subjects thereof are recognized at a much earlier date than they were a little over a decade ago, when malaria was first identified as a valuable therapeutic agent in general paralysis. This earlier recognition has already manifested itself in several ways, chief among which is the relative frequency with which patients with general paralysis are treated outside of State institutions. Formerly, and for obvious reasons, patients with such a diagnosis were relegated almost directly to hospitals for the care of the insane; under present circumstances the physician who first sees the patient is beginning to regard such a step as a last resort. A patient with incipient general paralysis can be treated just as well and as a rule with less delay in a general hospital than in a special institution. This need not be so, however, in view of the fact that early cases may voluntarily enter the latter, especially the State hospitals. The New York State hospitals are receiving an increasingly large number of such patients, who enter on their own application. It may be considered that this tendency is commendable, not alone because it serves to emphasize the close relationship of State institutions to public welfare, but also because it means that it is a distinct saving to the State for the reason that it is more profitable, not to mention the greater encouragement, to treat a mildly sick

patient for about six weeks than it is to treat a severely sick patient for approximately a year.

For several years Moore and his collaborators have been stressing early treatment of patients with neurosyphilis. More than that, they have served to stimulate the need for examination and treatment of the patient's kinship. Among their various observations is the finding that conjugal neurosyphilis is of relatively frequent occurrence.¹ "It was noted to be more common among the partners of parenchymatous neurosyphilitic persons than among those married to patients with diffuse cerebrospinal (meningo-vascular) neurosyphilis." In a study of 35 families Moore and Kemp found that one-third of the partners were normal, two-thirds were syphilitic and of the syphilitic partners 14, equivalent to 58.3 per cent had neurosyphilis. Moreover, in the 14 partners with neurosyphilis, "the type of the disease was certainly or probably parenchymatous (as in the original patient) in 11 instances."

During the past five years, that is, since the spring of 1923, we have been able to make observations on the incidence of syphilis in the spouses and children of patients with general paralysis. Whenever possible Wassermann tests in the blood and spinal fluid have been taken. As a rule we first take a sample of the blood; in the event that it is found to be positive, the spinal fluid is also examined. Generally if three successive blood Wassermann examinations are reported as negative, and if the physical examination of the patient is also negative, we are inclined to assume that it is reasonably probable that the subject is free from syphilis. We recommend that a reexamination of the individual be made at intervals of about six months. This attitude is taken with the children as well as with the spouses and it has proved profitable in the instances of other relatives, such as the patients' parents, brothers and sisters, etc. Indeed when one is concerned with such a disease as general paralysis, it is not at all unwise to examine everyone who has had contacts with the patient. It is not a simple question of infectivity alone, but in view of the fact that there seems at times to be a familial predilection to general paralysis, it is advisable to make inquiries whenever possible. In one instance the brother of one of our female patients was recognized (by the Wassermann reaction) as a case of asymptomatic general paralysis. It is believed that he

did not acquire the disease from his sister; it was fair to assume, furthermore, that he was not infected from any other source with the same strain that his sister had. Evidently, the problem was more easily reached, if at all, on the basis of physical constitution. Such an opinion was rendered also in the case of a sister of another female patient. Both sisters acquired syphilis at the age of 19; the source of infection was alleged to have been different and it seemed likely to have been so. One of the sisters developed a florid symptomatology of general paralysis 17 years later; the other sister, at the present time, which is 21 years after infection, has highly positive blood and spinal fluid Wassermann reactions and shows no physical or mental symptoms; her condition is best described as asymptomatic general paralysis. This digression raises several important questions, but the one for our immediate purpose concerns the advisability of examining the entire kinship of a patient with general paralysis.

We have at our disposal the results of Wassermann tests carried out on 86 marital partners of 86 patients with general paralysis. The blood Wassermann reaction was positive in 19 (or 22 per cent) of the mates; both blood and spinal fluid Wassermann reports were positive in eight (or 9.3 per cent) and in each of the 8 instances the diagnosis of general paralysis was made on the basis of laboratory findings, and physical and mental examinations. We cannot report on the condition of the spinal fluid in the remaining 11 individuals, whose blood was positive, because they have persistently refused to submit to a lumbar puncture. However, it can safely be stated that they are not symptomatic cases of general paralysis. The figures also indicate that among the spouses, who were syphilitic, at least 42 per cent were full-fledged cases of general paralysis. These figures are somewhat akin to those of Moore and Kemp, who reported that among the syphilitic partners they found 58.3 per cent to be neurosyphilitic. One might therefore, suggest that if one of a couple be syphilitic, it is highly probable that he or she may develop general paralysis and that under present knowledge a combined plan of treatment may be the procedure of choice, if the case be asymptomatic. It has been our custom to treat patients with asymptomatic general paralysis with malaria followed by salvarsan and, when indicated, by tryparsamide also. Although our exper-

ience is not wide enough to permit the expression of a final statement, we do not believe that such a course of treatment has any tendency to awaken the processes of general paralysis.

Because in each instance in which the spinal fluid of the marital partner was examined (when also the blood Wassermann reaction was positive), it was found to be positive and of a general paralytic nature, there is some suggestion that the *spirochaeta pallida* in the wife and husband had a selective activity on nervous tissue. Moore and Keidel² and others are of the opinion that it is difficult to escape the conclusion that there is a neurotropic strain of the *spirochaeta pallida*. There still remains, however, the question of the probable interpretation of the negative blood Wassermann reaction in 78 per cent of the spouses. Since we were unable to have spinal fluid examinations made in almost all of the 78 per cent we are unable to say that they are not neurosyphilitic, at least from the laboratory standpoint. It may be said, though, that not one of the 78 per cent of negative marital partners evidenced any clinical signs of syphilis. In each of these instances there was a succession of negative Wassermann reports extending over a period of months and sometimes years. Such consecutively negative responses are rarely encountered in individuals who later fall victims to general paralysis. That it may occur is attested by one case that came under our observation, an incipient paralytic of long standing, whose blood Wassermann reaction was consistently negative in face of a repeatedly highly positive spinal fluid reaction. This state was constant until treatment was instituted. It is, of course, not uncommon to encounter an occasional negative report among a series of positive ones. In almost every instance the husband and wife lived together for years and engaged in sexual activities with one another, as well as with others; and in the majority of cases the disease was acquired while they were living together. In a few instances the disease was acquired before marriage. One should expect a higher incidence of positive partners, if the suggestion of Moore and Kemp holds true, namely, that in some of the families studied by them, "The infectivity of this (special neurotropic) hypothetic strain is not limited to the first two or three years of the disease, when obvious external lesions are not infrequent, but may extend over a long period of years." The authors mention a wife who was infected by her hus-

band, who had acquired syphilis 13 years prior to marriage; again, a mate was infected by a partner, who had acquired syphilis $10\frac{1}{2}$ years prior to marriage. Our investigations contain too many unclear factors to enable us to make any comments from that standpoint. In the first place, in women it is very infrequent to obtain a history of syphilitic infection, probably because at times the initial lesion is deep in the vagina and therefore unobserved and probably also because, as has been reported by others, the initial lesion may not appear. Not uncommonly we meet with the situation in which strongly repressive forces operate to keep the knowledge of the acquisition of syphilis out of the patient's consciousness; the fact that there is a long period of apparently sound health following the chancre stage is of much consequence to the effort to forget. Besides, intellectual deterioration itself, as a result of the organic brain changes, may be sufficient to account for the inability to recall the primary stage. Finally, the two forces (the wish to repress and the incapacity to recall) may be responsible at different times in the same individual. Furthermore, in our experience external lesions in any stage of the disease are rare in subjects destined to become general paralytics.

The question of the influence of pregnancies on the course of general paralysis has been discussed by some investigators,^{3 4 5 6}. If we were to put forward any suggestion, we would intimate that it seems as if candidates for general paralysis are capable at times of transmitting the disease, whereas at other times the disease is not transmitted. Even this supposition must be advanced in an indirect manner. For instance, why is it that a woman (on our records), who had had two healthy children before the acquisition of syphilis, after she became syphilitic was pregnant 10 times, of which the first 9 pregnancies terminated in miscarriages or stillbirths but the tenth is now a keen, intelligent, syphilitic-free girl of 17? A more striking case is the following: A woman (general paralytic) who had been pregnant 15 times experienced the following results: The first child died at 6 months; the second, 20 years old, is alive and healthy; the next 5 died at birth; the 8th child, now 10 years old, is alive and well; the 9th died at birth; the 10th, now 8 years old is alive and well; the 11th and 12th were stillbirths; the 13th and 14th are alive and well; the 15th, born

after the patient had become severely deteriorated and had been committed to our hospital, was clinically and serologically negative. These findings are particularly striking in view of the fact that the mother's Wassermann reports in both the blood and spinal fluid remained Wassermann "fast" through four courses (of eight injections, each 3.0 grams) of tryparsamide. The "neurotropic strain", if there be such a strain, was not evident under these circumstances. One might suspect that if such a strain exists it might appear more frequently in the children of general paralytic mothers than it is said to appear in the marital partners. This is all the more probable because of the hereditary features; if the mother's neurological system, particularly the brain, were a *locus minoris resistentiae* one might expect to find a similar condition in some of the children. It is possible that it was so in the babies that died; of that we have no record.

Some quality or qualities, as yet unknown, operate to determine the infectivity and transmissability of syphilis. A woman with general paralysis had been pregnant three times after she had acquired syphilis. Two of the three children were born syphilitic. A most interesting observation in this family has to do with the consideration that two of the children were twins, both of whom were university men of excellent scholarship. One of the twins inherited syphilis, the other has shown no evidences of syphilitic involvement, now after several years of observation. The syphilis in the one was discovered only when the Wassermann test was performed as a routine measure, after his mother had become psychotic. The twins were identical.

We were able to examine the children in 42 families in which one or both of the parents were patients with general paralysis. Under these circumstances 73 children were investigated. In seven (9.6 per cent) the blood Wassermann reaction was reported positive; and in 66 (90.4 per cent) the results were negative upon several tests. It was not always possible to find out with accuracy whether some of the children antedated the advent of syphilis in the parents, but it is fairly certain that 24 of them did. Hence, it is more pertinent to report that of 49 children born during the phase of parental syphilis, seven (14 per cent) inherited the syphilis, whereas 42 (86 per cent) have thus far shown no trace of the disease. We were

unable to ascertain (in a number sufficient to warrant an impression) the temporal relationship of the pregnancies to the initial syphilitic stage.

In the eight instances in which both parents were suffering from general paralysis almost every pregnancy resulted in a miscarriage or a stillbirth. In only one couple are there surviving children. This couple had had two healthy children before the onset of syphilis. Following the syphilis the first child, now 11 years old and a bright, progressive scholar, inherited the disease, which manifested itself only as a syphilitic iritis; of course, the blood Wassermann was positive. The second pregnancy terminated in a stillbirth and the third and last pregnancy resulted in a girl, now five years old, in whom there are as yet no evidences of syphilitic involvement. The last child was born before treatment was instituted in either parent. It is interesting, furthermore, to know that almost directly after the last child was born the mother began to show symptoms of general paralysis. A situation of this kind makes one think of the suggestion of Moore and Keidel to the effect that something associated with pregnancy may confer immunity upon the syphilitic subject. We would like to ask if the immunity, providing it exists, may not also be extended to the embryo. Investigation from such a standpoint may help to explain why it is that (in our series) 86 per cent of the children born of syphilitic parents are free from syphilitic manifestations. Furthermore, it does not seem probable to us in the light of present knowledge that a special (neurotropic) strain of the *spirochaeta pallida* can be said to exist, for among the 49 children who were born of one or two neurosyphilitic parents, there is not one case of clinical neurosyphilis. It is no longer surprising to us to see intelligent, capable and unailing children, reared in a family of which a parent is suffering from neurosyphilis. In the particular series of cases that form the basis for the present communication there are no instances, for example, of juvenile general paralysis. In all probability, however, a certain number of the embryos that were associated with miscarriages and stillbirths met their fate through syphilitic processes.

SUMMARY

It is suggested herein that every member of a family, in which syphilis appears in one or more individuals, be carefully examined

for the same infection. This attitude is particularly emphasized in general paralysis, in which condition the usual absence of knowledge of the inception of infection, together with the absence of subsequent manifestations for years, acts as a barrier to the institution of adequate and timely treatment. We are already finding ourselves speaking of a prophylactic method of approach to a disease process that little more than a decade ago generally terminated fatally relatively early in its course.

In a series of 86 patients with general paralysis the Wassermann reaction was found to be positive in 19 (22 per cent) of the marital partners. Eight of the 19 individuals showed clinical and serological evidence of general paralysis.

Of 42 families, in which one or both parents were patients with general paralysis, we were able to examine 49 living children, who were born while the parent or parents were syphilitic. Among the 49 children 7 were found to have inherited syphilis.

Some suggestions are made relative to the question of a neurotropic strain of the *spirochaeta pallida*.

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FIFTY YEARS OF DEVELOPMENT IN THE CARE OF THE INSANE IN NEW YORK STATE 1878-1928

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The editors of the QUARTERLY have suggested that its readers would be interested in a review of the outstanding progressive features of hospital administration and of hospital care of the insane in New York State as these have developed during the writer's half century of service.

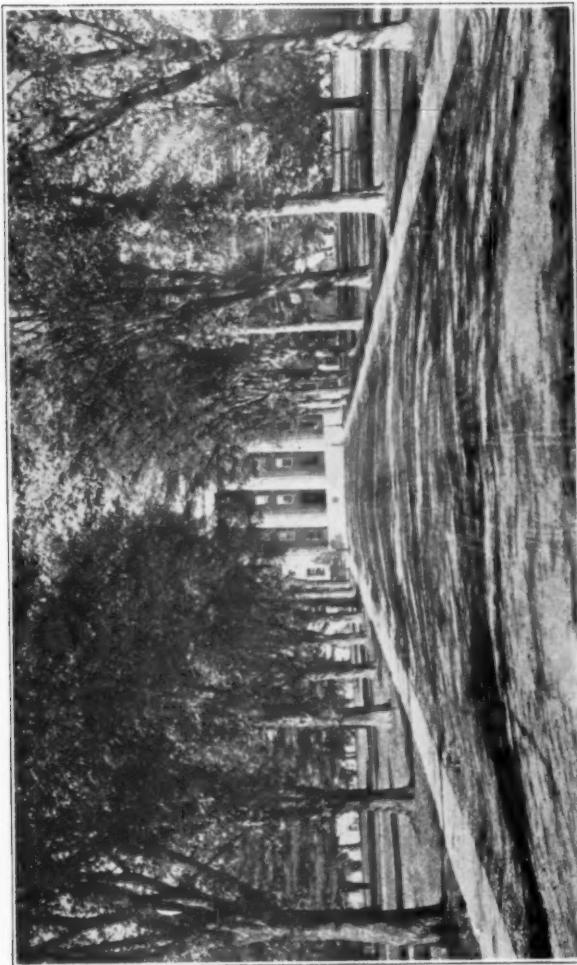
It will be appropriate to make reference here to the supervision connected with central supervision of the public institutions for the care of mental cases.

The service of the first State commissioner in lunacy, Dr. John Ordronaux, lawyer and physician, began in 1873, when the position was made part of the general supervisory system then under the control of the State Board of Charities. Within two years, however, the office was made independent of such board.

Dr. Ordronaux developed a system which, while an improvement upon that previously existing, was in practice incomplete. It embraced visitation and supervision of public institutions for all mental cases. Such institutions included at the time, in addition to the State asylums, the large city asylums of New York, Kings and Monroe counties, the criminal institution at Auburn, 18 other county asylums licensed by the State Board of Charities to care for their insane, as well as non-licensed poorhouses in which totally inadequate care prevailed. Finally, there were a few scattering private institutions.

Dr. Ordronaux was succeeded by Dr. Stephen Smith in 1882. Dr. Smith's medical and administrative skill, developed during the Civil War, was used to good purpose during his term as Commissioner, 1882-1888. He was succeeded by Dr. Samuel Wesley Smith of New York City, who served but one year, when the Legislature established the State Commission in Lunacy.

The writer's hospital service began in 1878 in what is now known as the Utica State Hospital, then under the superintendency of the distinguished alienist, Dr. John P. Gray, and ended, so far as actual hospital service was concerned, in 1889. The medical staff com-



MAIN ENTRANCE, UTICA STATE HOSPITAL



prised at different times during that period, in addition to Dr. Gray, Drs. Andrews, Brush, Blumer, Pilgrim and Wagner, each of whom was, in after years, to attain national prominence in the fields of psychiatry and hospital administration; and each to become, in turn, president of the American Psychiatric Association—originally known as the American Association of Medical Superintendents of Institutions for the Insane.

There were but four State asylums in operation in 1878: Utica, opened in 1843; Willard, in 1869; Hudson River, in 1871; Middletown, in 1874.

In the 70's the training of physicians and nurses in the care and treatment of mental cases was rudimentary. Lectures to medical students on insanity were delivered by superintendents of a few of the hospitals and this instruction was supplemented by casual visits of their students to the nearest State hospital for the study of manifestations of different forms of mental disorder.

Hospital practices were more or less primitive. Mechanical restraint was much in evidence. Leather muffs, sleeveless jackets, locked mittens and the frame covered bed (by its enemies denominated the "Utica Crib") were all prescribed for actually maniacal patients. The administration of chloral, hyoscyamine, and, later, sulfonal, as well as other powerful sedatives, was regarded as necessary and the medicine trays were usually heavily laden. A routine practice among the younger hospital physicians was that of prescribing three times daily good strong milk punches for a considerable portion of the men patients, especially those engaged in outdoor labor. So popular did this prescription become among its recipients that its discontinuance from time to time resulted in profound discontent and loud outeries for its restoration.

Owing to insufficient appropriations and to the impossibility of making proper classification in crowded institutions the march of progress was slow. The crowding, combined with untrained ward service, resulted in many clashes between patients, and, from time to time, in rough treatment on the part of attendants, i. e., in the use of too much force in the control of their charges.

Conditions finally became so acute that legislative investigations, starting in 1879, were of almost annual occurrence for some years succeeding.

However, public interest in the institutions had been augmented by the attendant publicity, and this gradually brought about more liberal appropriations. These enabled hospital heads to secure an improvement in the grade of hospital employees and laid a firm foundation for the excellent hospital training schools that were in after years to prove so valuable an adjunct to each of the State institutions.

The agitation which had been aroused by different charitable bodies with State-wide interests, led to the enactment of Chapter 126 of the Laws of 1890, the so-called State Care Act, which followed by one year the establishment by the Legislature, in 1889, of the State Commission in Lunacy. This body, originally designed to have only supervisory powers in connection with the insane in all institutions, soon developed into one of the most important departments of the State government; supervising and controlling the disbursement of 400 millions of dollars during the period—1895-1929—and bringing about extremely important reforms through its operation of the general State Care System here referred to.

The first commissioners, Dr. Carlos F. MacDonald, Goodwin Brown and ex-Congressman Reeves, for whom the writer acted as secretary, soon proved their ability and their determination to improve existing conditions. Public confidence in institutional management was soon restored and increased appropriations secured to relieve the dangerous overcrowding then existing.

Within the first seven years of its existence the Commission had to its credit, in addition to the establishment of the State Care System on a firm foundation the following achievements:

A complete registration of all persons detained as insane in either public or private institutions with full information as to committing physicians and magistrates (order of July 1, 1890).

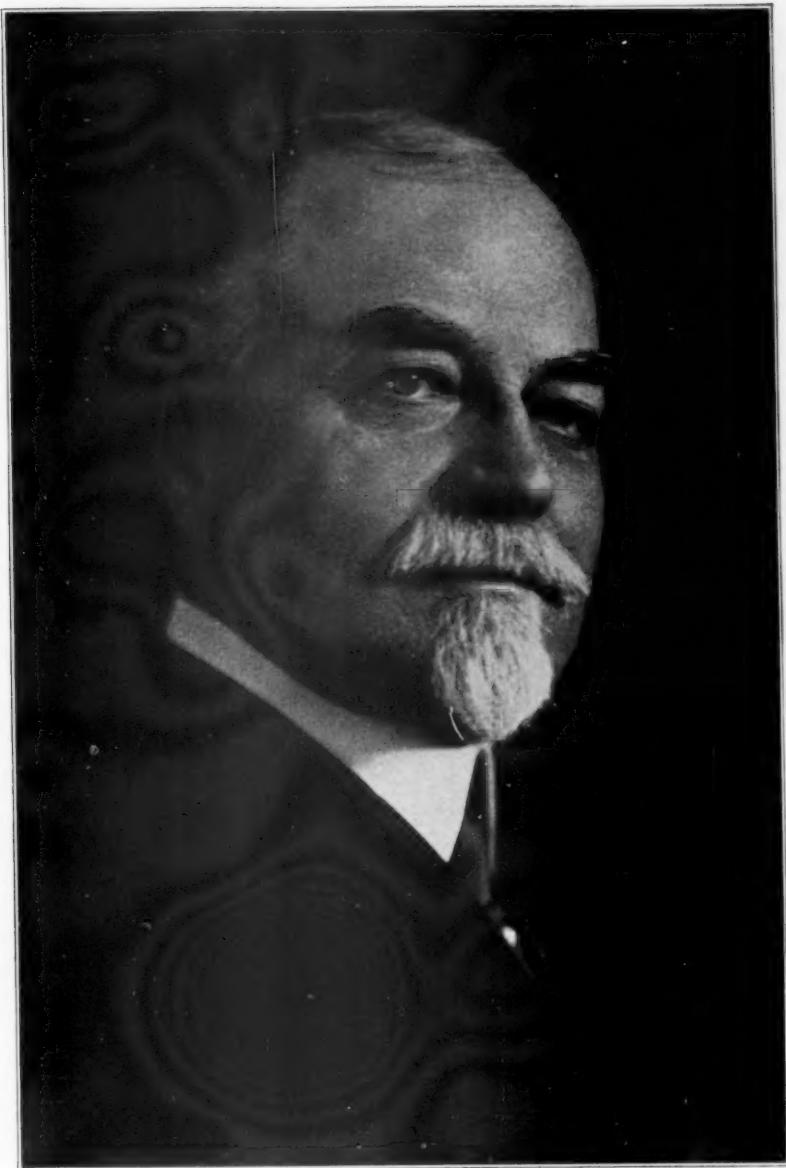
The establishment of uniform medical record case-books.

The establishment of a uniform system of reporting receipts and expenditures in all State hospitals.

Gradual elimination of the admission to State hospitals of private patients, (i. e., those possessed of sufficient means to secure treatment at private institutions.)

Efforts to establish a pathologist at each hospital.

Steps for the removal of all insane patients under county or town



CARLOS F. MACDONALD
CHAIRMAN, STATE COMMISSION IN LUNACY 1889-1896



control to the State hospitals as soon as the buildings provided for by the State Care Act had been made ready for their occupancy.

The establishment, in 1895, of the Pathological Institute for State hospitals, designed as a research and teaching center. The first director was Dr. Ira Van Gieson, a New York neurologist of reputation, who, after a stormy tenure of six years, was succeeded, in 1902, by Dr. Adolf Meyer.

The location of the Institute was changed during Dr. Meyer's service to Ward's Island. Under his direction, and, subsequently, under the successive administrations of Drs. Hoch and Kirby, the Institute developed a high state of efficiency. The Commission encouraged in every way the attendance of State hospital staff physicians at the lecture courses of the Institute, these being conducted by the director and his highly trained staff. The benefits derived therefrom were apparent in the high rating achieved by our physicians in subsequent promotion examinations. In every proper way the Institute was firmly established as an essential part of the New York State Hospital System.

Commissioner MacDonald, with hospital experience extending over 20 years, was convinced that all forms of mechanical restraint could be abandoned with certain improvement of the morale of hospital wards and with positive benefit to the patients. While his plans were accepted in good faith by hospital superintendents, it was found desirable to retain the lighter forms of restraint in surgical cases to prevent the removal of bandages, etc.

Dr. MacDonald also discouraged the prevailing use of chloral and other powerful sedatives; recommending in their place increased outdoor activities for men patients, light domestic employment for women patients, the prescription of hot draughts at bed time, etc.

An innovation fraught with very great advantages was that of holding conferences of the Commission and representatives of hospital boards, as well as medical superintendents. These conferences, originally held monthly and starting in 1893, were also attended at times by the Director of the Pathological Institute, and opportunity was thus given for the consideration of clinical and research problems, as well as of business and administrative questions. Later the conferences were held quarterly. Full discussion

of departmental matters was encouraged, developing a generous rivalry among managers and superintendents in the prompt adoption and perfection of plans proposed by the Commission, and the discontinuance of out-worn medical and business procedures. The spirit of cooperation manifested in these conferences has never wavered during the nearly two score years of their history.

There was also perfected a system of appointments, and promotion based on civil service rules and regulations covering all officers and employees. It is a notable fact that no departures from strict civil service procedure was attempted except in the year 1893 and also 20 years later, during the short incumbency of Governor Sulzer.

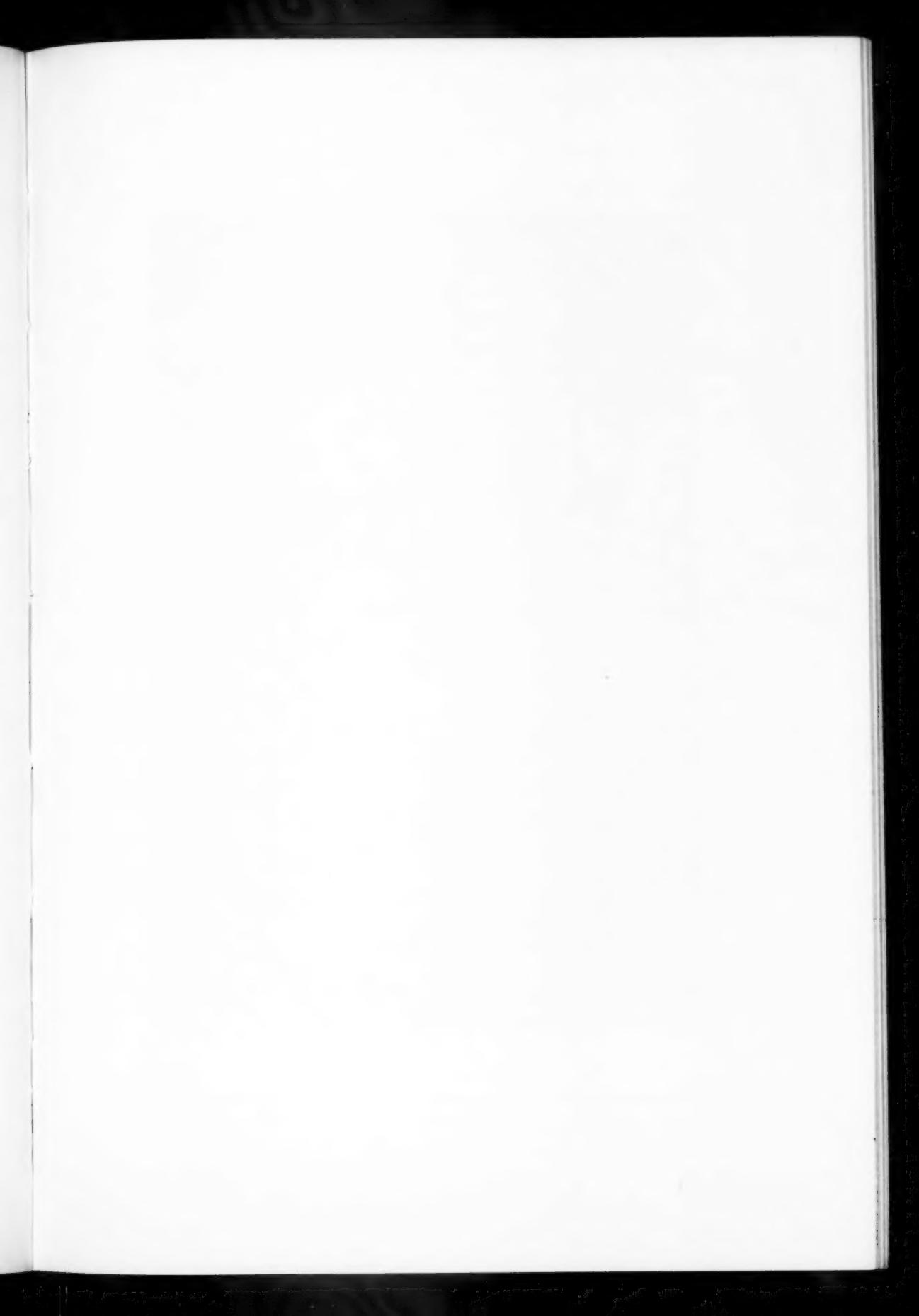
The object of the first attempt was to remove the position of medical superintendent from the competitive schedule, thus permitting the filling of a vacancy in this position then existing at the Buffalo State Hospital, by a physician of that city who did not even possess the necessary qualifications to *enter* competitive tests. Powerful politicians pressed this appointment under suspension of the civil service rules and Governor Flower was at first inclined to accede to their urgent demands; but the firm stand of Commissioner MacDonald and his associates served to convince him of the danger of such a precedent.

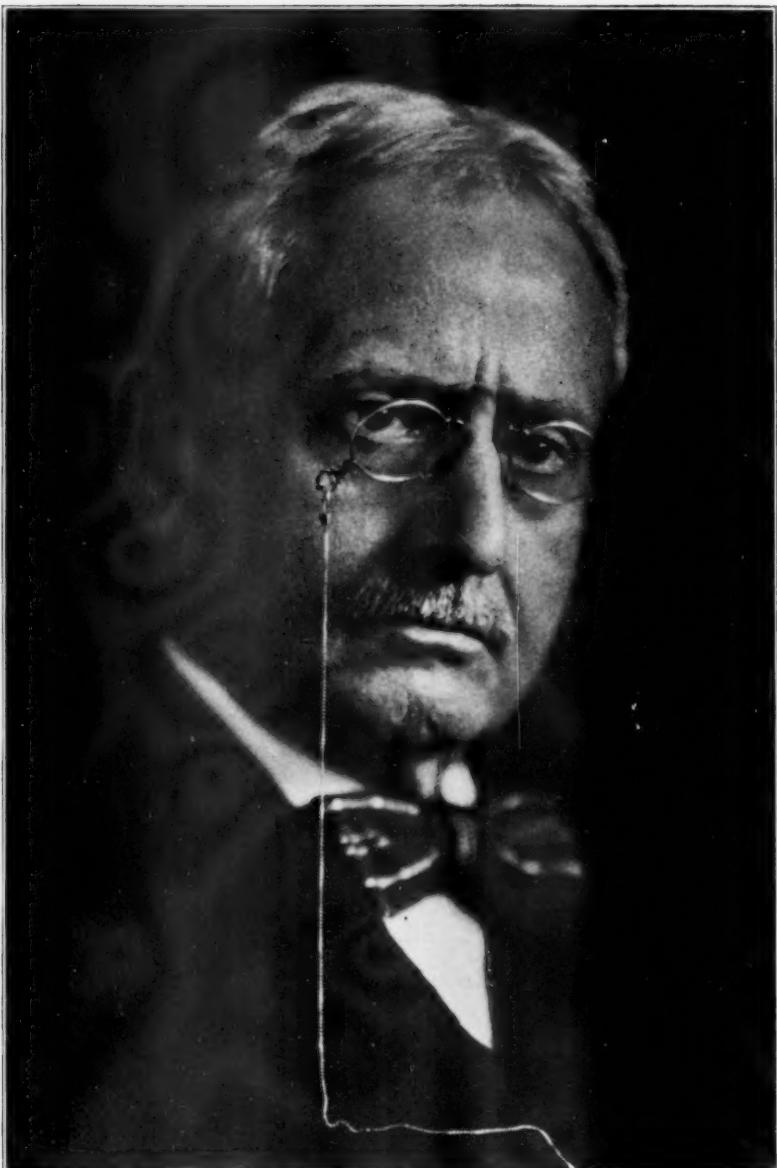
As to Governor Sulzer's activities in disrupting the Civil Service system perhaps little need be said. His term of service was cut so short through impeachment that schemes of his associates and subordinates were soon brought to naught.

Other progressive features were : The establishment of the estimate, or requisition system, (see Chapter 214, Laws of 1893), by which all institutions submitted for the Commission's revision proposed purchases of every nature; the provision of adequate fire protection for all of the State hospitals; and the improvement of systems in use at private institutions.

The Commissioners should also be credited with the establishment of grades of State hospital officers and employees, with uniform salaries and wages for each grade; and providing for promotion to higher grades after appropriate civil service examinations.

The Commissioners established, also, on January 1, 1896, the STATE HOSPITAL BULLETIN, in which staff officers of the Pathological





GOODWIN BROWN
STATE COMMISSIONER IN LUNACY 1889-1899

Institute and of State hospitals found a vehicle for the recording of clinical and pathological investigations of interest; and for plans looking to harmonious hospital medical work generally. This was succeeded by the STATE HOSPITAL QUARTERLY in 1915; and this in turn, was succeeded by the PSYCHIATRIC QUARTERLY in 1927.

Elevation of the standards of care in the large institutions of Kings and New York counties (admitted in 1895 and 1896, respectively, to the State Care System) to the grade prevailing in the other hospitals of the State—the Commission securing for this purpose sufficient appropriations to relieve very dangerous conditions of fire hazard, through overcrowding of wards.

The Commission with the best intentions, secured in 1896-7 appropriations for the appointment for each hospital of an attorney to enforce the payment by relatives of accounts for the maintenance and treatment of patients. Rarely has so much speed been made by the Legislature as was shown in passing this appropriation item, although it was closely matched by the celerity with which demands for the newly-created offices were filed by political bosses for the appointment of their protégés. The discontinuance of this wasteful experiment, after 14 years' trial, was due to the demands of these new employees for increases in their stipends—even though they were receiving from \$1,200 to \$4,000 per annum for relatively trifling services.

Other matters worthy of note in the work of the first Commission were:

The establishment of a system of paroling patients to the care of their relatives and friends. The length of these paroles was gradually extended until at present they are granted for one year; our last reports indicating a total of more than 4,000 patients now under parole with their friends and relatives.

The extension of the system of training schools for attendants and nurses, (The original State Hospital Training School was established at the Buffalo State Hospital in 1886 by Dr. Judson B. Andrews, superintendent, the details of the plan having been perfected by his first assistant, Dr. Wm. D. Granger).

Discontinuance of a long prevailing custom in certain of the hospitals of granting special privileges as to space for the richer class of private patients.

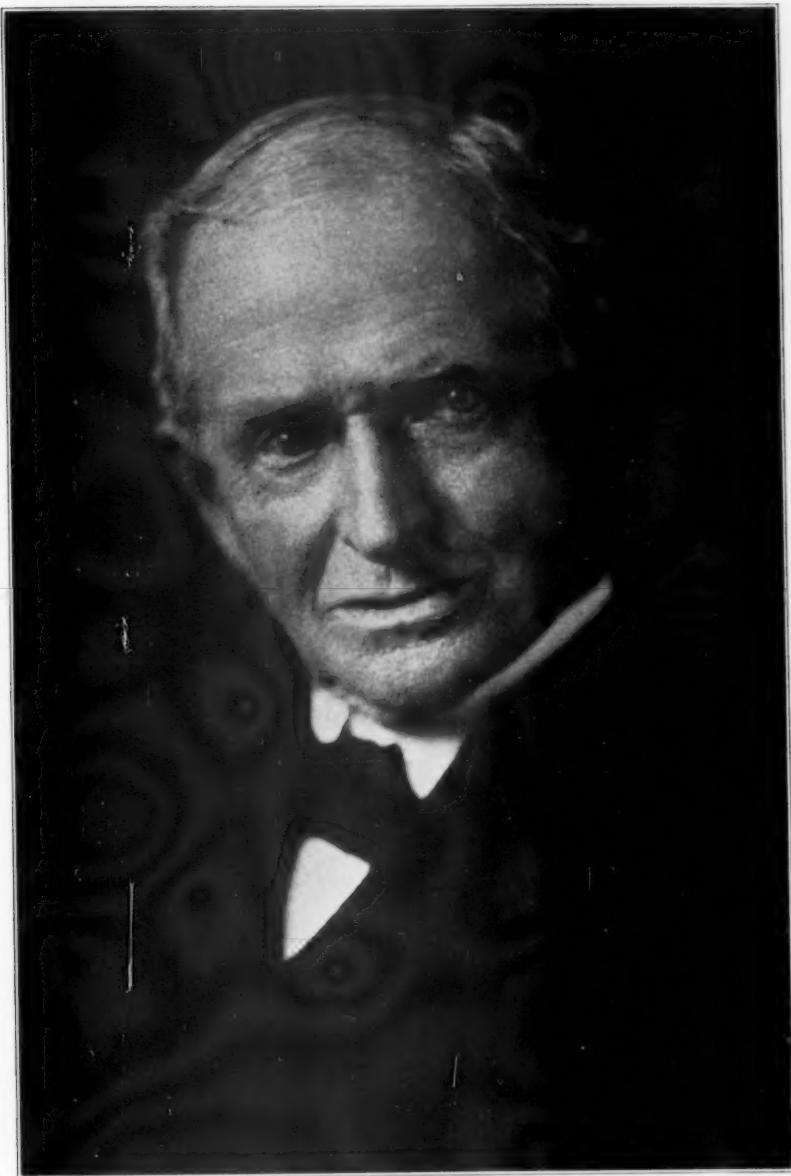
BUILDING DEVELOPMENTS

Succeeding Commissioners followed in the main the progressive program initiated by the first Commission. So much, however, could not be said of succeeding governors, for in the first years of the century plans for reduced appropriations for the construction of hospital buildings from the per capita rate fixed by the original State Care Act at \$500, to \$400, were recommended by Governor Odell and approved by the Legislature, resulting in the construction of a few ward buildings of the factory type, which, in succeeding years, by reason of swift deterioration proved unsatisfactory and not economical.

By reason of the increasing cost of labor and materials it was subsequently found necessary to abandon the limitation altogether. The per capita rate of building construction in connection with our new hospitals has increased from the minimum above referred to of \$400, in Governor Odell's time, (1901-1905) to nearly \$4,000 in 1928. However, present-day buildings show immense improvement, being fireproof and having added facilities for the proper care and treatment of patients.

An interesting feature in connection with the additional housing required for the patients of New York City was the construction at the Central Islip State Hospital of a group of buildings, one mile in extent, with connecting corridors; the whole capacity of which at the time of first occupation in 1901 was 2,200 beds. Since 1914, however, the pressure for additional bed space has been so great that all of the connecting corridors are at the present time also used for dormitories increasing the capacity of this group to 3,400 beds.

A noteworthy development in the plan for additional accommodations for the metropolitan district arose in connection with the acquisition by the Commission, in 1908, of the abandoned State rifle range property at Creedmoor, distant some 13 miles from Brooklyn and its conversion into a colony annex of the Brooklyn State Hospital. The property consisted of about 200 acres, of which 7 acres were subsequently conveyed to the Long Island Motor Parkway, to be used for highway purposes, for \$19,000; which sum was by legislative action, made available for the purpose of remodeling the regimental frame buildings; and an additional sum of \$50,000 was at the same time provided by the Legislature for further construction, the provision of a switch, etc.



HENRY A. REEVES
STATE COMMISSIONER IN LUNACY 1889-1897





The Colony was begun on small lines, only 32 patients being transferred to Creedmoor for the cultivation of the Colony farm of 40 acres. Subsequently the total acreage of the Colony was increased by 121 acres making a total of 321 acres.

Within the next ten years—before 1922—the legislative appropriations for the Creedmoor Colony had increased to \$3,000,000, and the Board of Managers had recommended an additional appropriation of \$2,000,000 to provide a complete institution. The capacity of the Colony at that time was reported as 150 beds—and these only for male working patients. At this writing, however, there are at the Creedmoor Colony 1,800 patients and its organization as a separate institution is under consideration.

It is a striking fact that for 25 years, *viz*: 1898-1923—when construction of the Harlem Valley State Hospital was begun—no new hospital was authorized by the Legislature with the exception of the ill-fated Mohansic institution—referred to elsewhere—which lived only long enough to acquire a pleasant sounding title and to furnish in remodeled farm buildings temporary accommodations for approximately 65 farm working patients.

Several of the Commissioners serving through the developmental period of our hospital system, labored conscientiously for the establishment of new hospitals in different parts of the State, convenient to large centers of population, but the insufficient appropriations voted the department were an effective bar to success. Dr. Peterson and his associates were in 1901-2 firm in their belief that a new institution to be located north of Troy could be established; but the net result of their efforts was, (owing to political interference), the possession of a site called the "Baker Farm" near Whitehall, which was found later to be unsuitable for hospital purposes and was turned over to the Prison Department which built thereon the present Great Meadow Prison.

About this time properties representing very favorable elements for hospital purposes were offered the Commission by large owners of real estate in Rockland County. A disagreement between the Commissioners resulted in the abandonment of this proposition.

Another attempt was made, this time by Commissioner Ferris, to establish a new hospital for the lower part of the State at Yorktown Heights in the vicinity of Lake Mohansic. The requisite acreage

was procured—much of it fronting on the lake—but after the State had expended a considerable sum on the remodeling of farm buildings connected with the properties, to accommodate 65 patients, and on the construction of a track and trestle, the authorities of the City of New York protested against any further development on the ground that the establishment of a hospital on the site would constitute a serious menace to the health of the city, through contamination of its Croton water shed. Further operations ceased in 1916. The site was for a time used as a State park, but is now included in the general park development of the County of Westchester.

The development of the Harlem Valley State Hospital at Wingdale, Dutchess County, opened in 1924, was the outcome of the conversion of a series of buildings originally designed for prison purposes into a hospital for the insane.

Very interesting are the plans outlined for two entirely new State hospitals, the first of which, the Rockland State Hospital at Orangeburg, Rockland County, will be occupied before the end of the current year. It is planned to accommodate 4,500 patients. The second will be constructed at Brentwood, Long Island. A portion of the buildings may be occupied in 1930. The capacity has not been fixed but will not be less than 5,000.

The State Psychiatric Institute and Hospital is approaching completion in New York City and will accommodate 200 patients.

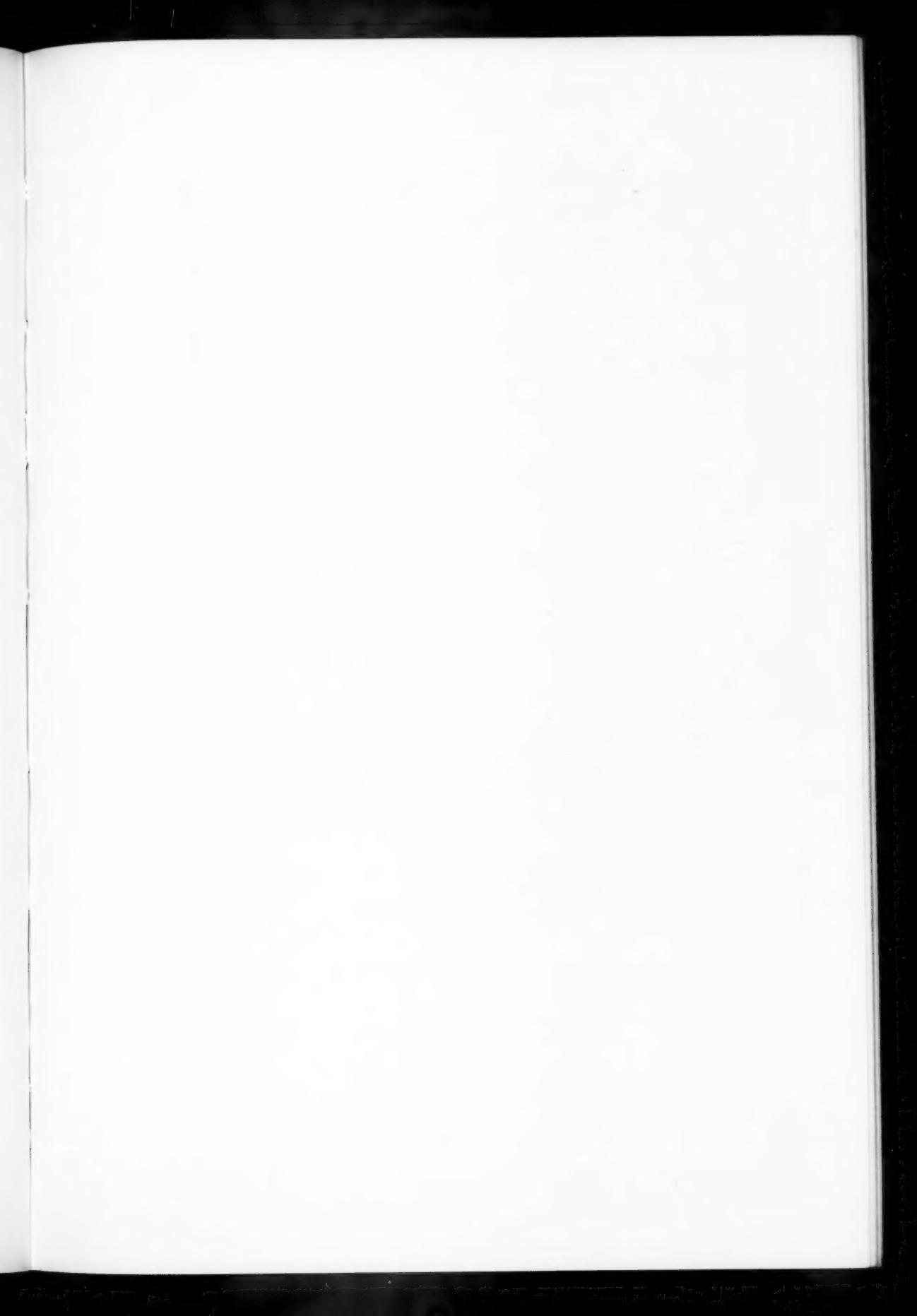
Departmental growth is indicated by the following:

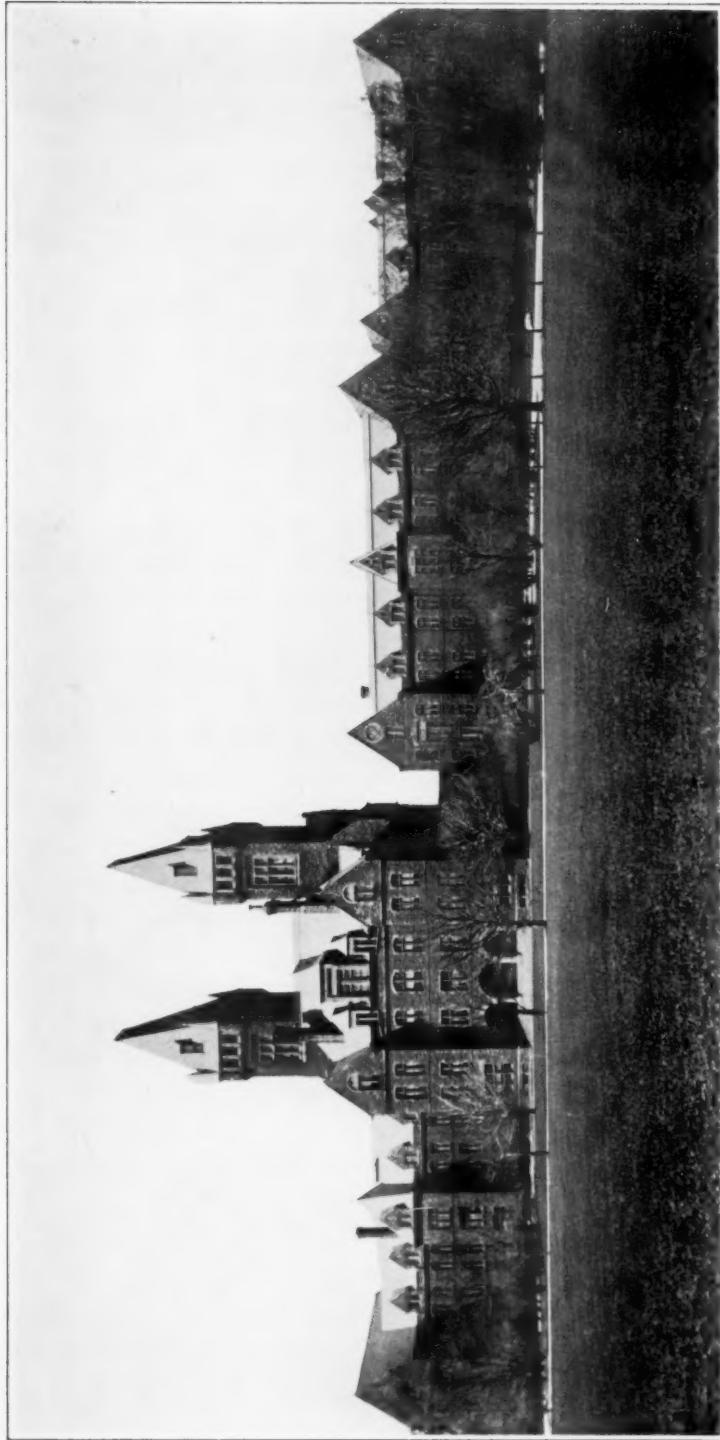
In 1897, upon the completion of the State Care System through the inclusion of the institutions of New York and Kings counties, the entire patient population was 21,683. In 1928—31 years later—it had increased to 52,998, including in both instances, the institutions for the criminal insane and those in licensed institutions. In the first year mentioned the total disbursements of all kinds on account of the insane in the civil state hospitals was \$5,291,557.01. In 1928, it was \$26,735,239.18.

TYPES OF BUILDINGS

In reviewing the plans of different architects since 1878 some noteworthy features are in evidence.

It was probably due to the influence of the managers of the Buf-





BUFFALO STATE HOSPITAL



falo State Hospital, among them Dr. John P. Gray, that the distinguished Boston architect, Richardson, was engaged to plan the institution. To him can be credited the administration building and its original wings, arranged in echelon. The beautiful towers are most impressive but their cost and the large outlay required in the further development of the institution necessitated the substitution of brick for the expensive stone first specified.

It had always seemed to the writer that the idea uppermost in Dr. Gray's mind was to prevent any repetition in the Buffalo Hospital buildings of the grey quadrangular and austere construction so marked in the Utica institution.

The St. Lawrence State Hospital at Ogdensburg was planned by State Architect Perry, with Dr. Wise as consultant. It resembled the Buffalo State Hospital in but one particular, its costliness. Nevertheless, much can be said for its general plan for the reason that very little money has been required for repairs or for either internal or external upkeep.

DEVELOPMENT OF THE PSYCHIATRIC INSTITUTE AND HOSPITAL

It is a far cry from the establishment of the somewhat futile research and teaching branch headed by Dr. Van Gieson in 1895, to the very comprehensive program of 1920 when a preliminary appropriation was secured by the Commission to cover plans for an institute and hospital to be located in the city of New York, where a staff of specialists should carry on research work and conduct courses in psychiatry for the benefit of State hospital physicians and others.

As is well known, the State has built the new Psychiatric Institute and Hospital on a site presented by Columbia University in the medical center located at 168th Street and New Haven Avenue, New York City, and before the close of 1930 this fine establishment will be in full operation. A great vista will unfold itself before the eyes of young and ambitious hospital physicians of post-graduate work in many departments of psychiatry. Under the guidance of its director, Dr. George H. Kirby and his accomplished staff, adequate clinical opportunities will be given through the hospital department where accommodations are to be provided for 200 selected cases and where intensive study and treatment will be carried on.

The total expenditure for the building and its equipment will not fall short of \$2,500,000.

Thus will come to full realization the dreams of MacDonald, Peterson, Pilgrim, Mabon, Haviland and Parsons of a completely equipped centrally located research and teaching laboratory and hospital, with clinical material always available, with an adequate personnel of highly-trained psychiatrists and neurologists under capable leadership; destined to produce results of permanent value not only to the citizens of our own State but also to the nation at large.

STATE HOSPITAL FIRES

It is noted with considerable satisfaction that in the course of fifty years a very small number of serious casualties under this head have occurred.

In March, 1893, a large group of buildings just being made ready for occupancy at the St. Lawrence State Hospital caught fire from some unascertained cause and was practically destroyed, entailing a loss of \$193,000. The most serious fire in our departmental history occurred in the male department of the Manhattan State Hospital on Sunday morning, February 18, 1923, one of the coldest days of the winter. Notwithstanding the most strenuous efforts of officers and employees, assisted by the fire departments of the hospital and that of New York City, the fire spread rapidly and destroyed the entire roof and third story of the right wing of a large building before it could be checked. Twenty-two male patients and three employees lost their lives in the fire. Many believed that the fire was incendiary in origin as it was followed by subsequent smaller fires within a space of two months. The cost of the reconstruction of the burned building and equipment was \$326,000.

ESTABLISHMENT OF RETIREMENT SYSTEM

Chapter 59, Laws 1912, authorized the establishment of a retirement system to comprise only employees of the State hospitals for the insane. Twenty-five years' service was required to secure a retirement allowance amounting to one-half of the employees' wages. The system was maintained by a sliding scale of contributions. This arrangement was changed four years later to a flat rate of 2 per cent on monthly salary for all new entrants. To these con-

tributions were subsequently added the "lost time" deductions, i. e., from sickness or other causes.

After an experience of thirteen years the reserve had reached only \$558,000. Actuaries consulted at the time reported this was insufficient and recommended that the contribution rate should be increased forthwith if retirements were to be continued.

Meanwhile the membership was increased to include all State hospital officers as well as the employees of the different departmental branches of the Commission. In 1918, a State Pension Commission was established by Chapter 414, headed by the Superintendent of Insurance, which, after a year's study, recommended a State-wide system with adequate contributions and an optional retirement at age 60 and a compulsory retirement at 70. Full retirement allowance was fixed at one-half of the average annual salary received during the five years preceding retirement.

These recommendations were embodied in a law subsequently passed, Chapter 745 of the Laws of 1920, but, as many State hospital employees preferred to remain in the hospital pension system, an immediate increase was made in the contribution rate to guarantee present and future annuities.

At this writing the total number remaining in the State hospital system and paying contributions of 5.55 per cent of their annual salaries to secure a retirement privilege after 25 years of service is 788.

INCREASED HOSPITAL PAYROLLS

The compensation of medical and administration officers of hospitals has been materially increased of late years; and at the present time medical superintendents receive from \$4,000 to \$6,000 per annum with an increase from the minimum at the rate of \$500 at the end of each year of continuous service; first assistants receive from \$3,200 to \$4,000 per annum with an increase from the minimum at the rate of \$300 at the end of each year of continuous service. This rate also applies to directors of clinical psychiatry.

The difficulty of keeping the lists of hospital ward attendants filled has not been so acute of late years. The present hospital wage schedule offers a minimum of \$54 per month to an entirely inexperienced employee who becomes an attendant, this rate increasing to \$66 with length of service; and an addition of \$4.00 above these

rates being granted to employees undertaking night service. Medical care, rational amusements and a bonus for those continuing in service have been provided as supplementary attractions.

DEPORTATION OF IMMIGRANT INSANE AND EPILEPTICS

An important development of the activities of the State Commission in Lunacy was the establishment in 1904 of a special Board of Alienists (now the Bureau of Special Examination) which was charged with the examination of immigrants admitted through the port of New York and, subject to warrants issued by the Federal government, to arrange for their deportation at the expense of the immigration department. The board could also negotiate with relatives of insane immigrants whose insanity had developed after their arrival and required commitment to a State hospital, with a view to their return at private expense.

The older immigration law which provided that deportation could not be enforced in other cases at the expense, either of the steamship company bringing them to this country or of the Federal government, unless it could be shown that the mental upset occurred within three years after landing and was due to causes existing prior thereto, was, in 1917, enlarged to permit such deportations during a five-year interval between the patients' arrival and the development of the disease.

The board could also return to other states, patients whose residence therein could be proved to the satisfaction of their authorities.

The work of the Bureau of Special Examination, now conducted by a chief medical examiner and qualified assistants, has been effective in removing from the State thousands of aliens and non-residents who have no claim on the bounty of the State.

OCCUPATIONAL THERAPY

As early as 1798 Benjamin Rush emphasized the value of occupation in the treatment of the insane.

Dr. Brigham, first superintendent of the Utica State Hospital, wrote much on this subject and carried out practical plans for suitable types of occupation for both men and women patients, not only in outdoor work but in specially constructed work shops. Nor should his successors in this state be deprived of the credit which

may properly be assigned them, especially Dr. Charles T. LaMoure, who did outstanding work for dementia *præcox* patients at the Rochester State Hospital.

Still it is but simple justice to record the fact that within ten years the term occupational therapy, as applied to manual occupation and recreational activity of patients in our hospitals, has taken on an entirely new and vigorous connotation. In 1922, Mrs. E. C. Slagle, a recognized expert, was appointed director of occupational therapy in the State Hospital System. At that time there were only 4.8 per cent of the total resident hospital patients recorded as receiving occupational treatment in our thirteen civil hospitals. In 1926, this had increased to 27.5 per cent of resident patients, and in March, 1927, the percentage was 31.9, or a total of 13,549 patients thus employed. Within five years, therefore, the increase had amounted to 653 per cent. There are at present under Mrs. Slagle's direction many well trained, experienced therapists and regular physical training of a high order has been instituted, and recreational activities have been increased and systematized so that they are now enjoyed by a large part of the patient population. Several new occupational centers have been established and new equipment provided. A marvelous morale has been maintained throughout. Such are the results thus far accomplished by combining under wise and enthusiastic leadership, knowledge, vision, common sense, hard work and unselfish devotion in the work of rebuilding human lives.

EXECUTIVE SUPPORT

The very considerable improvement in the general welfare of the mentally ill during the past ten years may properly be credited—to a major extent at least—to the far-seeing, humanitarian policies of Governor Alfred E. Smith. With voice and pen he has lent his influence to every plan for the amelioration of the sufferings of this most unfortunate class. His tireless efforts brought about the bond issue of 50 million dollars, the proceeds of which have been expended for the erection of new hospitals and for additions to existing institutions to relieve overcrowding. To him also should be assigned considerable credit in supporting the subsequent bond issue for 100 millions of dollars for a general public building program. These bond issues have enabled the Department of Mental

Hygiene to start construction on two entirely new hospitals, the Rockland State Hospital and the one to be located at Brentwood, Long Island; and to further develop the institutions at Marcy, Wingdale and Creedmoor.

A special reference should also be made at this time to the great interest shown by Governor Smith in the construction of the Veterans' Memorial Hospital on the grounds of the Kings Park State Hospital. This was dedicated on the 24th of September, 1927, and constitutes one of the most important events in the history of the State Hospital System. An aggregate amount of \$2,400,000 out of the proceeds of the 50 million dollar bond issue was set aside for the construction of this fine group of buildings.

THE PRESENT OUTLOOK

The Department finishes its fortieth year of official existence under fortunate auspices. It has the support of the executive and legislative branches of the State government and is securing sufficient appropriations to accomplish much within the next decade, not only through a marked decrease in the existing overcrowding but also in providing effective means of prevention of mental breakdown through State-wide clinics in charge of experienced and highly trained physicians and nurses. The division of prevention has a staff of three psychiatrists and six field agents who cooperate with social workers and public health nurses in many sections of the State. The campaign for prevention also covers the dissemination through the press and through official leaflets, information as to mental hygiene, as to avoidance of excesses of all kinds, the adoption of the doctrine of the simple life, etc.

The scientific work of the Department will be directed through the Psychiatric Institute and Hospital already described.

Every guarantee can be given to the State's wards that their rights will be protected, their comfort will be assured and treatment by trained psychiatrists and competent nurses will be provided to bring about, wherever possible, their complete restoration to mental health.

BOOK REVIEWS

Nervous and Mental Diseases for Nurses. By IRVING J. SANDS, M. D., Associate in Neurology, Columbia University, New York City; 12mo. of 238 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, \$1.75 net.

The increasing attention given of late years by the nursing profession to nervous and mental diseases has resulted in a demand for an adequate textbook for nurses on this subject, and the author has endeavored to meet this demand in this volume.

The first chapter describes the anatomy of the central nervous system. Chapter II is devoted to endocrine glands, their functions, and conditions resulting from their dysfunctions, and while the subject matter is well covered one might question the inclusion of it at such length in a volume of this kind. Elementary medical psychology in the third chapter describes the various instincts and personalities. In Chapter IV the common neurological disorders are considered. These are grouped under the headings, traumatic, inflammatory, vascular, neoplastic, hereditary and degenerative. Paresis is here described in less than half a page, and we read, "Physically they (paretic patients) show speech disturbances, tremors of facial muscles, pupillary disturbances, increased reflexes, and often disturbances of control of bladder and rectum. Occasionally they may have convulsions. Rarely unconsciousness may occur." The mental symptoms are covered in five lines. Apart from the technique and administration of salvarsan and other drugs the nursing care is given in six lines and consists of advice to use general hygiene and watch for changes in the patient's behavior, general sense of morality, general judgment, particularly regarding the spending of money.

Mental disorders are taken up in Chapter V. They are divided according to etiology into heredity, traumatic, toxic and infectious, exhaustive, psychogenic, constitutional, environmental and undetermined. Their symptoms are grouped as disorders of perception and association, consciousness, memory, attention, ideation, emotion or affectivity, motor activity, speech, judgment. The classification is then given. This is the same as that amended and adopted by the American Psychiatric Association in so far as the psychoses are concerned, except that the author omits the psychoneuroses and neuroses. In the official classification these are subdivided into: Hysterical type, psychasthenic type, neurasthenic type, other types.

The author makes a second group of the psychoneuroses and divides them into: Neurasthenia, hysteria, anxiety neuroses, compulsion neuroses (psychasthenia). He makes a third group of what he calls "constitutional psychopathic inferiority states" and a fourth one of "mental deficiency."

In Chapter VI the common psychogenic psychoses are discussed. Under "Nursing" of manic-depressive, depressed phase, the possibility of suicidal attempts is stressed and two pages are devoted to instructions as to what to do when certain poisons are taken, and one might question the necessity of giving so much space to toxicology at the expense of more important material which is omitted. Under "Attempts at Suicide or Drowning" we read: "Artificial respiration has sometimes proved of value. The patient should be placed face downward on a barrel and rolled in an effort to remove the water from the lungs. Artificial respiration, especially by a pulmotor, should then be attempted." Experience has shown that a barrel is rarely available at such a time, and the author might better have described a more modern method of resuscitation.

In Chapter VII describing the common organic psychoses, we have paresis again considered with some repetition but with no reference to such symptoms as ataxia, difficulty in writing, absent knee jerks (hyperreflexia is given) or Argyll-Robertson pupil; there is no description of the general course and progress of the disease except to state that the prognosis is poor; no mention is made under nursing of the difficulty of swallowing, necessitating properly prepared food, of the fact that the patient becomes bedridden, of the tendency to decubitus and many other points of importance. The technique of malaria inoculation is given and the after-care following this. According to the author 15 to 20 per cent of the patients who receive the malaria treatment die during its administration. This is considerably higher than was noted by Dr. George H. Kirby, Director of the Psychiatric Institute, New York City, who probably has had greater experience in malaria treatment in paresis than any other person in this country.

In brief the subject of general paralysis, which the author states constitutes from 11 to 12 per cent of admissions to State hospitals, while taken up in two places is not adequately considered in either.

In Chapter VIII we have the infective, exhaustive and toxic psychoses, including the alcoholie group, which are discussed at some length.

Chapter IX takes up borderline mental diseases, first among which are the psychoneuroses, and the author here adds a fifth subdivision, "Traumatic Neuroses" to those he previously listed. Under "Constitutional Psychopathic Inferiority States" we have the following: Inadequate personality, emotional instability, pathological lying, kleptomania, sex perversion, drug addition. To the last mentioned group more than five pages are given. The

last to be considered is mental deficiency, the three subdivisions of this group being mentioned but there is no description of psychoses accompanying mental deficiency.

The first part of Chapter X is historical, telling in brief the story of the development of modern psychiatry, with fitting reference to the World War experiences, to the National Committee for Mental Hygiene, and to the psychoanalytic movement. In concise form is given the procedure of commitment and the routine following admission to a modern State hospital. Methods of treatment, include among others, hydrotherapy, tube feeding, drugs, physical restraint, and occupational therapy. In tube feeding we learn "The feeding consists of milk, eggs, sugar, brandy. Strained cereals, concentrated broths and vegetable extracts may occasionally be added." It would seem advisable to stress the more frequent use of this latter group and explain the necessity for the same. Again, under physical restraint we read "Strapping to bed by means of half sheets lightly drawn across the knees and chest of the patient and securely fastened to the bed are commonly employed." If the writer is familiar with the directions of the Department of Mental Hygiene of New York State he either does not concur in their ideas regarding restraint or considers them subject to improvement, as the above practice has not been countenanced by them for many years. The statement "At no time should a patient be kept in solitary confinement" should also be modified, for while seclusion is not to be encouraged, it is nevertheless a humane and proper method of treatment suitable for use by the physician in exceptional cases.

Chapter XI is on mental hygiene. This is an excellent discussion of the subject and its importance to the individual and to the community is duly stressed. There is much in this chapter that should be of assistance to the nurse in the management of herself and her patients.

In Chapter XII special nursing procedures are discussed. Here we find repetitions to some extent. For example—tube feeding described under nursing procedures in neurological cases and also under treatment of psychotics in state hospitals is again taken up in this chapter and we note variations in the details such as the feeding is "warmed to a temperature of 100° F", "warmed to a temperature of 98° F", "usually heated to about 100° F". Also hydrotherapy described on pages 182, 183 and 184 with an illustration of a continuous bath is considered at greater length in this chapter and another illustration of a continuous bath given. These could have been combined to advantage. Similarly restraint is described here although it was given under treatment of psychotic patients in state hospitals. As will be seen from the following quotation the author's conception of the subject of restraint is different from that of those engaged in the care and treatment of the mentally ill in New York State:

"The mildest type of restraint is that of a sheet drawn across the chest of the patient and tied to the sides of the bed. The feet may be tied to the end of the bed by a broad bandage loosely drawn across the ankles. A wet pack or a dry pack (where the sheet is not moistened) may be used in the more disturbed patients. A camisole is an arrangement of a triple-ply canvas drawn across the patient's body, securely fastened by straps to the sides and end of the bed. The use of the straight-jacket and solitary confinement have long been abandoned because of their inhuman and unscientific character. Occasionally stockings are drawn across the hands in order to prevent scratching, biting of the nails, picking of the skin, etc. The continuous bath is one of the most efficient forms of restraint for the excited and extremely active maniac and delirious patients. In transferring resistive patients from one ward to another or from one hospital to another they should be securely fastened to a stretcher and should be kept under strict observation."

While it must be borne in mind that this volume is not prepared solely for use by nurses in mental hospitals in New York State, it is believed nevertheless that for the best interest of patients, forms of restraint not countenanced by the Department of Mental Hygiene in New York State are such that they should not be recommended for use.

It is felt that in this book some subjects are often given much too brief consideration while far less important topics are at times dealt with at relatively much greater length. The author could, it is believed, have improved his work had he arranged it somewhat differently, perhaps omitting the chapter on special nursing procedures, but giving these under the various neurological diseases or psychoses where their use would be indicated. It further seems undesirable to discuss a disease, a condition or a form of treatment in different chapters. It might better be dealt with once only and then in as much detail and as thoroughly as considered necessary. This would overcome much of the repetition of the subject matter and permit of a more systematic arrangement.

PRITCHARD.

Negro Problems in Cities. A Study Made Under the Direction of T. J. WOOFTER, Jr., 1928, By Doubleday, Doran and Co., Inc.

The Institute of Social and Religious Research, which is responsible for publication of this work conducts and publishes studies and surveys, combining the scientific method with the religious motive.

The great trend of negroes toward the cities is a development within the past quarter century. In 1870 only 750,000 lived in cities, mostly in the

small cities of the South. The number has doubled since 1900 when 2,000,000 were living in urban environments; moreover, the movement is toward the larger cities, as New York, Chicago, Philadelphia, Buffalo, etc. Such a mass migration produces a marked change in living conditions in the community from which the negroes come and likewise adjustments in those to which they move. "It has produced a new set of contacts between the races, and it involves a very significant change in the relation of the negro to American life and the assimilation of a new type of culture."

To investigate and report, in detail, would require much time and make a voluminous report; it was therefore decided to limit the inquiry to aspects of city negro neighborhoods that relate to general behavior characteristics, to housing, to recreation and to schools, in the belief that these are among the most interesting and significant factors in negro adaptation to city life.

The book is divided into four parts:

1. NEIGHBORHOODS, by T. J. Woofter, Jr.
2. HOUSING, by Madge Headley.
3. SCHOOLS, by W. A. Daniel.
4. RECREATION, by Henry J. McGuinn.

The study is recognized as only a beginning, many important features being necessarily omitted, but a great many facts are brought out that are most illuminating. The investigators were two white and two colored people, each interested in some one particular phase but all cooperating in the interest of the study. Observations were made in seven cities of the North and nine in the South, a few smaller places were studied for the sake of contrast and comparison. It would, therefore, seem that the data obtained should be considered of real value. "Many people attribute excessive negro death-rates from tuberculosis, pneumonia and the diseases of infants to inborn racial traits, others attribute crimes of violence and irregularities in family life to peculiar emotional equipment of people of African descent." This analysis indicates that these traits are also profoundly influenced by the conditions of life found in cities.

Mr. Woofter, has without doubt, a deep knowledge of social conditions with a wonderful power of observation and expresses himself in a convincing manner while bringing out his comparisons of Northern and Southern negro conditions. He shows that the migration of negroes is not alone a movement of South to North but from the country to the city and has brought with it a great stimulation to municipal improvements in the South and has "gone far in the North towards unshackling the bonds of slave psychology."

Many tables of statistics emphasize points made in the body of the study and are well worth considering. Contrasts are drawn between the white and

negro population, between the North and South in regard to increase and density of population, death-rates for various diseases, housing conditions, rents, etc. For instance, he shows how density has a relationship to immorality, family privacy being seriously violated in crowded houses where conveniences are often used in common and further invaded when lodgers are included in the same households with young people.

Part 2. Housing. In this section of the study 12,123 cards, from 18 cities, were examined. A description of the card is found in the appendix. Negro dwelling by classes, rooms, equipment, toilet facilities, repairs, etc., were tabulated and instructive information is drawn from each table. This part is not alone valuable to any social agency or worker but the lessons developed are worth while to real estate men, legislators and philanthropists.

Part 3. Schools. Here we find tables and comparisons of negro children in schools in different cities. Studies in retardation, over-age and slow-progress pupils, white and colored, prove that the writer has an excellent grasp of his subject. In discussing the assumption that the negro is mentally inferior the writer states that "careful consideration must be given to such factors as language, physical condition, education, home environment, outside employment, different habits of thought, etc. These considerations should suggest extreme caution in any attempt to draw conclusions concerning the relative intelligence of different pupils or of different racial groups of pupils on the basis of intelligence tests.

"The groups whose ratings by intelligence testing are most affected by such factors (preceding paragraph) are foreigners and negro newcomers. The results from the tests given in the United States Army during the World War showed higher ratings for northern Negroes than for some white groups or for southern Negroes, indicating that the test-scores were affected by other factors than native mental ability. Changes in these factors are paralleled by changes of varying amounts in the test scores. It has been discovered that many negro children from the South who made very low scores when they were first tested were tested with very different results after attending Northern schools."

Part 4. "Recreation. As there was known to be a great deal of delinquency among negro children in overcrowded areas of large cities, an effort was made in this study to obtain data on the subject, and to ascertain how important a contributing cause the lack of wholesome recreation for the young people in these areas was believed to be by judges of children's courts and welfare workers acquainted with conditions and accustomed to dealing with juvenile delinquency cases."

Table XLVIII on page 227 shows conclusively that negro children contribute a disproportionate number of cases to juvenile courts. Further

tables on playgrounds, libraries, etc., assist in bringing out features that will no doubt result in legislation meant to alleviate many social maladjustments.

Chapter XVII on Commercial Recreation gives in many details data on social opportunities offered by many cities.

Notwithstanding the frequent number of tables and statistics the text is so well written that one may read it with pleasure and understanding. It is also illustrated with maps and diagrams.

GRAY.

The Clinical Examination of the Nervous System. By G. H. MONRAD-KROHN, M. D. (Oslo), F. R. C. P. (London), Physician in Chief. Neurological Section, State Hospital, Oslo, Professor of Medicine in the Royal Frederick University, Oslo; 4th Edition; 1928. P. B. Hoeber, New York. \$2.50.

This manual is a concise but thorough guide, and should be very useful to every physician who has not mastered a systematic technique. It was designed for this purpose by an able teacher who advises his students, first to complete the systematic examination without speculating as to the diagnosis, then write out the findings, right and left sides, then try to arrive at a focal diagnosis based on anatomical and physiological knowledge, and finally consider the nature of the lesion in terms of pathology. The value of the book is attested by four English editions, besides the original Norwegian and French edition. Both book and method are recommended to students of neurology at Queens Square. In spite of several editions the text seems new and up to date. It is conveniently arranged and contains a wealth of detail which meets the needs of the student. It is profusely illustrated by excellent photographs. There are numerous references to recent literature, including American. An appendix includes sections on intelligence tests, psychosomatic examination, diplopia, vestibular tests, anatomical diagrams, pharmacological tests, and interpretation of x-ray pictures. The printing is good and the book is of a handy size.

GIBBS, KINGS PARK.

Lectures on Conditioned Reflexes. By Professor IVAN P. PAVLOV, M. D., Director of the Physiological Laboratory, Leningrad, Nobel Laureat, etc. Translated from the Russian by W. Horsley Gantt, M. D. International Publishers, New York.

This volume of over four hundred pages consists of lectures on conditioned reflexes delivered by Professor Pavlov on various occasions over a period of several years. As Professor Cannon says, it is a collection of reports on progress. Practically every chapter repeats most of the material of pre-

ceding chapters with occasional added observations. For this reason the work is not a readable one, and would serve best as a manual for the investigator rather than for the general reader. One might read chapters 18 or 21 reflectively and have before him about all the contents of the volume.

Professor Pavlov's investigations on conditioned reflexes are well known. His method consists of a strictly objective study of animal responses, particularly of the salivary responses of the dog. His general view is that of the functionalist or behaviorist. The linkage of events throughout is followed on the physiological level from the sensory stimulus to the motor and salivary conditioned reflexes. In other words his work is the latest attempt of naturalistic positivism applied in the field of biology, or of scientific naturalism in the realm of animal responses.

The reflex arc is divided into three parts: (1) The *receptor apparatus* of the afferent nerve and its ending in the receptor cells of the central organism, termed the *analyzer*. (2) The *connecting mechanism* of fibers which join the ends of the afferent nerves with the effector apparatus. (3) The *effector apparatus* or efferent nerves as the working parts. From the standpoint of anatomy, Professor Pavlov's work contributes little to the topography of the higher brain centers. He finds universality of possible connections in the higher department of the central nervous system. The several localized regions are in fact entwined and entangled one with another. The motor region in the cerebral hemispheres is a place of receptor centers in exactly the same way as the occipital and other regions. No one has ever been able to produce true paralysis by removal of the so-called motor region. We often meet the seeming paralysis of one or another muscle which is really a paralysis of the afferent nerve or analyzer. By removing successively different parts of the brain at a time, we discover that it is the cerebral cortex that is the analyzer and synthesizer of stimuli, and that apparently every part of the nervous system is connected in complex ways with every other part through the medium of the cortex. The frontal lobes of the brain have no special localized centers, but seem to be connecting areas for all the others.

Because of the universality of connections in the cortex every imaginable kind of phenomena of the outer world may be converted into a conditioned or learned stimulus. In other words, any agency that acts as an unconditioned stimulus may, in certain conditions, become a conditioned stimulus. Thus any cutaneous stimuli, mechanical or thermal, applied regularly at intervals in connection with feeding, will soon become conditioned stimuli for the conditioned salivary reflex. The same is true of all visual, auditory, and olfactory as well as purely internal stimuli. The analytical faculty of the nervous system of the dog for musical tones and noises is far more dis-

erminating than our own. Thus if a tone of a given pitch is elaborated into a conditioned stimulus for the salivary reflex, a tone of one-fourth note difference will fail as such conditioned stimulus.

From a great variety of experiments, Professor Pavlov has derived several fundamental laws of the conditioned reflexes. Conditioned reflexes are highly inconstant. The various and remote agents used act as signals for food. Irradiation over the entire cerebrum is called the first law of excitation. Concentration of excitation along certain lines and at foci is another law. The laws of inhibition are also of great interest. External inhibition is of different kinds: If we repeat several times a previously well elaborated conditioned stimulus without adding the unconditioned, it gradually loses its usual effect and is temporarily inhibited or *extinguished*. If the unconditioned stimulus is added to the previously conditioned stimulus, not immediately after the beginning of the latter but some seconds or even minutes later, the conditioned reflex sets in only after a certain latent period or is *retarded*. If with a conditioned stimulus some different agent is combined which has not been used in connection with the unconditioned stimulus, the conditioned stimulus gradually loses its stimulating effect or becomes a *conditioned inhibition*. If a definite agent is the conditioned stimulus, then all similar and related stimuli also have somewhat the same effect but, when the chosen stimulus is often repeated, these extraneous stimuli gradually become ineffective or become *differential inhibitions*. Certain stimuli act with general inhibiting effect resulting in a sort of hypnotic state or even deep sleep. Again certain stimuli may inhibit other inhibiting stimuli or produce the phenomena of *dis-inhibition*. These laws serve here to illustrate something of the nature of what the research has accomplished.

Professor Pavlov seeks to follow a purely naturalistic method of investigation. But *psychical* phenomena are invariably connected with neural action, so far as our human knowledge goes. Hence we are rationally justified in accepting this fact as a universal law of nature. Consciousness, thought, feeling, volition are therefore just as much a part of nature as the objective organism itself. By way of criticism, accordingly, we submit that any method of studying nature that leaves half of nature out of consideration is far from a "scientific" method. This error of trying to explain the whole by a part has been all but universal in the history of thought, and has invariably resulted in vanity and vexation of spirit.

Prof. Pavlov holds that the physiologist has now no serious reason for discussing the relationship between psychical data and the facts of physiology; his task is only to collect and analyze the endless objective material which presents itself. The introduction of subjective or psychical consideration he holds to be an act of violence or an affront to a serious scientific endeavor.

The physiologist must examine the reactions, using in connection with them the progressive and systematic removal of parts of the central nervous system in order that he may ultimately arrive at an exact knowledge of the mechanism involved. "If the naturalist hopes to make a complete analysis of the activity of the higher animals, he has not the right to speak of the psychical processes of these animals, and he cannot so speak without deserting the principle of natural science. Natural science is investigation of nature without any kind of assumption or explanation from sources other than itself" (p. 82).

The author points out that psychology as the knowledge of the inner world of the human being is still at sea concerning its own essential methods. Hence by resorting to the psychological method, the physiologist must fail, and takes over the thankless task of divining the inner world of the animal. "The objective physiologist of today must admit that the physiology of the brain is still uncertain." From this it is concluded that psychology as an ally has not justified itself in the eyes of physiology. (p. 121.) Professor Pavlov is so obsessed with the objective method that he ventures to write: "Mankind will possess incalculable advantages and extraordinary control over human behavior when the scientific investigator will be able to subject his fellow men to the same external analysis as he would employ for any other natural object, and when the human mind will contemplate itself not from within but from without." (p. 95.)

As we all know, the conditioned reflex is a *learned* reaction. *Learning is itself psychical*. We repeat that to leave out half of the natural phenomena is not a scientific method that can hope to come to anything like a true final solution of the problems of nature and experience. At best it can only perceive the shadow of the reality. Suppose we inquire *why* any agent may become a conditioned stimulus. Evidently it is only because it is the *signal of food*, in the case of the dog. But why is a tone, for example, such a signal? Because it has repeatedly been used in connection with feeding with food. When then it is used as a conditioned stimulus and the conditioned reflex appears, it is because the sound *means* the time of food getting. But *meaning is a psychical fact*. Yet if the conditioned stimulus had not this *meaning*, there would be no reflex. Why also is a conditioned stimulus inhibited, on repetition without the unconditioned stimulus? Simply because, if the conditioned stimulus is repeated and the expectations of the animal to receive food are not realized, it ceases to regard the conditioned stimulus as *meaning* certainty of getting food and gives its up, i. e., it ceases to give the conditioned stimulus the usual acquired *meaning*. Like reflection would be possible in relation to all the laws of conditioned reflexes.

Undoubtedly Professor Pavlov has done the utmost by way of a purely

objective method, and the function of the nerves as such should surely be investigated in just this way. But we have no belief that any such hoped for millenium as is pictured by such method for mankind of the future has a shadow of possibility of realization. Professor Pavlov's work is the last word of its kind, but it tells only half of the story of nature and of life.

GEORGE S. PAINTER,
New York State College.

Being Well-Born. By MICHAEL F. GUYER; 490 pages. The Bobbs-Merrill Company, Indianapolis, Ind.

Being well-born is a subject worthy of serious thought to the present-day thinking public. Dr. Guyer has realized this and has presented a book with a scientific approach and with a view to illuminate some of the mysteries that surround the subject of heredity. Eleven years ago this book made its first appearance as one of the "Childhood and Youth Series." It was kindly received and well spoken of, as "a book for the layman but not written down to the 'popular' level," "as a work for the general reader, the parent, teacher or social worker," "as a textbook for classes in applied eugenics."

The extent to which Dr. Guyer has revised and expended the first edition may be seen in the fact that the original first four chapters have become fourteen. The space devoted to the physical basis of inheritance and to genetics proper has been greatly increased; also separate chapters on embryology, the mechanism of development, immigration and population have been added. Much of the new material is more technical than that included in the first edition, however, the same simplicity of style and presentation is employed so that the book may continue to be read by layman as well as become a textbook for the student.

The book gives much recent information in the experimental fields, which bears upon heredity. "My gifts have come to me from down the years", Dr. Guyer has emphasized as being more than a bit of poetry. Knowledge of heredity is derived from first, the study of embryology, second, through experimental breeding of plants and animals and, third, through the statistical treatment of observation or measurements. These three methods are explained at length and used as a basis for any statements and conclusions drawn in regard to inheritance. The phenomena of reversion is explained as being of three types; (1) recombination of characters—or rather of the factors of characters—which became separated in some way in previous generations; (2) removal of superimposed or obscuring factors; and (3) arrested development. An elaborated and detailed discussion of embryo formation, the mechanics of development including the influence of the

internal secretions and vitamins is dealt with. Illustrations are used in a forcible way to emphasize the results of these influencing factors. The Mendelian Law is traced through simple experiments, new combinations, crossing of individuals, and finally the complex Mendelian phenomena of inbreeding, cross breeding, and out-breeding is treated. All this is valuable information for the student of genetics.

Perhaps from the psychological and sociological point of view the latter half of the book holds the greater interest. Mental qualities are inheritable as truly as physical, Dr. Guyer emphasizes. "The Mendelian principles apply to the traits of man, we are beginning to observe," he states. "After making due allowance for environmental influence," Dr. Guyer goes on to say, "it has been shown that mental and temperamental attributes such as ability, memory for numbers, vivacity, conscientiousness, industry, efficiency, attentiveness, perseverance, and temper, are like physical features, based on hereditary endowment." Also he states because of outstanding similarities in mental traits in many family strains, one is compelled to believe in the inheritance of a considerable degree of specialization in the underlying structure."

The psychologist with the behaviorist point of view will scarcely concede these statements as facts, as they tend to conflict with the ideas, that, personality is the sum total of habit systems plus many conditionings—that emotional behavior is learned not inherited—that we learn to think by learning to do.

Human heredity on the physical basis includes, eyes and hair color, digital malformations, baldness, stature, longevity, multiple births, predisposition to diseases of tuberculosis, cancer, insanity and hereditary feeble-mindedness, according to experiments recorded.

The chapters in the later part of the book which deal with the problem "Are Somatic Modifications Inherited?" lays due stress upon environmental influences. The question stated is: "Can such enhanced or suppressed development, or can new or modified characters produced in an individual by external agencies be so reflected on the germ-cell of the individual that they tend to reappear as such in its offspring without requiring the same external factors for their production?" The author believes the questions will remain unanswered until further experiments which are in progress are worked out.

The chapter on pre-natal influences dispel any illusions or myths which frequently are believed and handed down from one generation to another concerning "maternal impressions." The pre-natal influence of, lead poisoning, alcoholism, and venereal diseases are stressed. "Parents can do nothing toward modifying favorably such qualities as are pre-determined in their germ plasm. Nevertheless, they must come to realize that bad environment can wreck good germ plasm," is the conclusion drawn.

The plea for race betterment through heredity made in the final chapter is strong. Mental and nervous diseases, crime and delinquency and immigration, are factors discussed in relation to their bearing upon race betterment and social evolution. "The fate of future generations is ours to determine," Dr. Guyer states, "and we are false to our trusteeship if we evade the responsibility clearly laid before us."

The book is a comprehensive study of the subject "Being Well-Born," and is based upon a scientific and biological background. It is filled with information valuable for the classroom and the individual.

OLIVE MAE HOOVER.

Abstract

Medico-Legal Considerations on General Paralysis Cases Cured by Malaria Therapy. AUGUST WIMMER. *L'Encephale*, 23:569. July-August, 1928.

The results of malaria therapy of general paralysis, which appear so favorable, have presented quite delicate medico-legal problems. If we can obtain by malaria therapy a "complete cure" of general paralysis to the extent that the clinical and serological findings disappear and leave only indifferent scars, as Argyll-Robertson pupils; if the patient can take up again his previous occupations and discharge them satisfactorily; and if that improvement is maintained for a period sufficiently prolonged to exclude a relapse, then the legal psychiatrist will find it hard to deny that the paralytic, declared incompetent or considered irresponsible at the time his disease was manifest, is not again competent from the point of view of criminal responsibility and civil capacity. For in our medico-legal examination it is necessary as a rule only to take account of the mental state of the subject *tempora criminis*.

The writer agrees with Schneider, Claude, and others that, pending further information, there is every reason to be prudent in evaluating the medico-legal capacity of patients qualified as "cured", but recognizing that in the future cases may occur in which regained medico-legal capacity must be acknowledged. With regard to the attitude of psychiatrists toward paralytics "cured with defect", analogies may be drawn with other organic brain conditions, as arteriosclerosis, where the clinical lesions can subside or improve in a way to leave only unimportant mental symptoms. In general paralysis it is a question of knowing how to estimate "complete remissions" of treated cases. Some indications may perhaps be stated, for use in making a medico-legal examination and report. These are stated with reservations as to possible future experience.

1. The mental symptoms must have disappeared, or at least the mental status must show the psychic functions to be practically intact. For example the memory and especially the recent memory, which is the real index of an active brain lesion. Then we must note whether attention and perception have been restored, and especially whether individual intellectual operations have regained their previous level, or at least are able to respond to the exigencies of the future life of the person. It would thus be a question of total "psychic mobility," of the quickness and richness of association of ideas, of reasoning ability, prudence, critique, conduct, interest, etc. Some allowance must be made for lack of complete appreciation of the previous condition, even in "complete remissions."

Residual defects on the side of emotion or character are of great importance, and in fact such sequelae distinguish the defect cures of "vollremissionen". They may be noted by the wife. The personality stamp of the individual is somewhat effaced. A lack of tact has been noted in patients incompletely cured. They also frequently retain a pronounced emotional erethism, while others may show defects of moral precision, or certain perversions of erotic feelings, defective sense of duty, etc. For these we must depend upon the statements of wife and children, since social restraint may curb rather strong ugly tendencies outside of the home life.

2. In speaking of the cure of paralyties, as in cases of dementia *præcox*, we use the term "practical cure". Undoubtedly an important criterion of cure is the fact that the patient can again occupy his place in his home and his social life. But a distinction must be made, whether a patient returns to a cultured home and social environment, where any emotional or intellectual defect would be quickly noticed, or whether to a more simple environment, application to a simple, mechanical, automatic work, or to an individual occupation depending on personality, initiative, etc.

3. Certain neurological residuals are undoubtedly compatible with a complete cure, such as unequal pupils, Argyll-Robertson pupils, defects of tendon reflexes, etc. This should not be said of persisting speech defects, of a marked muscular asthenia, of evident difficulties of writing. In such there would be hesitation in considering the general paralysis killed.

4. We know that there is no close parallelism between the change in the clinical picture, psychotic and neurologic, in treated cases, and the serological findings. It is often necessary to wait months for the disappearance of a pathological serology, but in complete remissions the spinal fluid and blood become normal.

5. This change of serology, connected with the duration of the remission, affords the best criterion, according to actual experience, of a complete remission and especially of a lasting remission. In cases of complete

remission lasting at least three years, with spinal fluid returned to normal, Cross and Straeussler have never observed a recurrence.

In the following case the change of the clinical-serological picture of the disease seems to satisfy the above criteria. In fact the actual condition of the patient does not permit the diagnosis of general paralysis, the previous existence of such a disease depending only on the history.

CASE. Shoemaker, married, age 45, admitted March 10, 1928, for medico-legal observation. Varying occupations, social instability, married first in 1902, divorced in 1908, remarried in 1914. Arrested in 1915 for violence to his wife, again in 1925 and now in February, 1928. Not an epileptic. Alcohol quite excessive before 1922, after that very moderate. In 1910 he contracted syphilis, probably from wife. Treatment early by mercury. After that no treatment, no symptoms.

Of average intelligence, had always been restless, unstable, with marked irritability and frequent outbursts of brutality and violence. Otherwise no psychotic signs until Christmas, 1922. Then a change of behavior, boasted of great riches, sang and was over-active, visual hallucinations of small animals and of bad men. Finally admitted to Asylum of Aarhus, January 15, 1923. There he continued excited, voluble, some flight of ideas, quarrelsome, boasted of his own syphilis, and of that of his wife and daughter, proposed the daughter in marriage to the chief physician, all the world belonged to him, invited everyone on his boat on a trip, he must leave in an airplane for the Indies to mobilize, he passed 48 millions of vessels and airplanes, was a grand singer, etc. Gradually became very violent. No marked failure of recent memory, pupils equal, reaction to light preserved, slight speech and writing defect. Spinal fluid 5 cells, albumin 20. Wassermann strongly positive in fluid and blood. Another lumbar puncture in September, 1923—70 cells, albumin 40. January 23, 1923, a paralytic fit with transitory hemiplegia, with speech defect more accentuated. Diagnosis of general paralysis was made.

Malaria inoculation February 17, 1924. Nine rises of fever up to March 9, temperature curve irregular. Quinine given. Marked amelioration of psychotic state with appreciation of his disease, memory intact, disappearance of speech defect, even temper, disappearance of ideas of grandeur and hallucinations. Blood Wassermann remained positive. Lumbar puncture refused. Left hospital August 13, 1924. Returned to work, without completely providing for his family. Was very good for a time, then his irritability and tendencies to violence returned. Otherwise he was well, remained at home evenings, no alcoholic excess, not prodigal with money, no excitement or euphoria, nor ideas of grandeur. Careful of his person. Wife sees no marked intellectual defect. No convulsive or other attacks. In his last act of violence against his wife (for which he was sent for observation) he seemed to react in a way similar to that previously: She returned late in the evening, he reproached her and a quarrel followed, she being battered quite brutally and his son calling the police. He retains a detailed memory of the battle.

Under observation, up to April 27, 1928, he has behaved normally, is quiet, even tempered, free in his movements but without exaltation or true euphoria, without volubility or motor agitation. Clear, well oriented. No apoplectic or epileptiform attacks or emotional crises observed. Detailed mental status showed no trace of dementia. Intellectual operations intact. Does very well on Binet test. School and social knowledge good. He read without committing the faults seen in paralytics, while his writing is a little poor it is without paralytic defect. Recent memory quite remarkable, two mistakes

on 18-word pairs, and 14 days later he still remembered the other words. Satisfactory tests of attention, perception, description of pictures, etc.

Physically vigorous, well nourished, no weakness, no tremors of lids or tongue. No signs of alcoholism. No trace of hemiparesis of 1924. Patellae and achilles reflexes absent. No Babinski, no ataxia. Pupils slightly dilated, equal, reaction to light and accommodation well preserved. No paralysis of ocular muscles. Fundi normal. Slight difficulty with test words, which had to be repeated to be pronounced correctly. Wassermann negative in blood and spinal fluid, 7 cells, globulin 0, albumin 10. No signs of aortic aneurysm or arteriosclerosis. B. P. 170/83.

Medico-legal report ends with following conclusion: According to facts mentioned above, the accused must be regarded as cured of the general paralysis which was shown by undoubted clinical and serological symptoms at the time of his residence in the asylum. Neither from the clinical or serological point of view can we say that he has an active general paralysis. This established, and considering the circumstances of his last act of violence against his wife, it seems more natural to say that this act is analogous to his previous acts of violence, especially those of 1915, which occurred before the appearance of his general paralysis, and as a manifestation of his habitual irritability. He retains some neurological signs of a disease of syphilitic origin, we may say an abortive type of tabes, but without importance for the question of his penal responsibility. Conclusion: The accused does not present any symptoms of a mental disease, and we cannot maintain that at the time of his act of violence on February 12, 1928, he was in a state of dementia.

The accused was acquitted because of inadequate evidence.

Poor judgment in civil matters will often be more costly to the pseudocured paretic or his family than his little infractions of the law. One criterion of civil capacity is that the individual knows how to transact business logically. It is just here that paralytics, even in the initial period, often have difficulties. Similar difficulties must be expected in patients in remission and so concrete civil cases will arise. The Danish law and the French Code direct that interdiction (incompetence) ceases as soon as the interdict can be considered capable of safeguarding his interests. It will undoubtedly be difficult or impossible to prevent withdrawal (of judgment of incompetence) in case of a complete remission of general paralysis.

Similar problems will appear relative to the marriage or divorce of general paralytics. The Danish law of 1922 on marriage and divorce does not permit insane persons or imbeciles to contract marriage. And one spouse can obtain annulment of marriage if, at the time of its conclusion, the other spouse was in a state of transitory mental alienation or in a similar state rendering him incapable of rational action. The Danish law authorizes divorce because of mental alienation, where the mental disease is such that a continuation of marriage ought not to be required, and the disease has lasted at least three years during the marriage, without there being a well-founded hope of lasting recovery. It is easy to see that difficult medico-legal problems may be expected. For example, it will be impossible to state that there is no well founded hope of lasting cure of a general paralysis, since dif-

ferent statistics speak of 25 to 30 per cent of paralytics as cured by malaria therapy.

Similar considerations may be expected in the application of the law of insurance for permanent disability due to disease. We cannot rate the disability of a paretic as strictly permanent. Repeated examinations will be necessary. There is also the question of deciding whether a cured paretic should return to his previous occupation. It is of great importance that the nature of his work be considered. One is shocked to know that chauffeurs, railway engineers, etc., have been permitted to return, after pretended cure of their general paralysis, to occupations where the smallest blunder can result in serious results to the public.

So our medico-legal decisions concerning treated and supposedly cured paretics must remain very prudent and quite reserved, although, in some cases, less severe than in the past.

GIBBS,
Kings Park.

Stammering. A Psychoanalytic Interpretation by ISADOR H. CORIAT, M. D.
Nervous and Mental Disease Publishing Co., Washington.

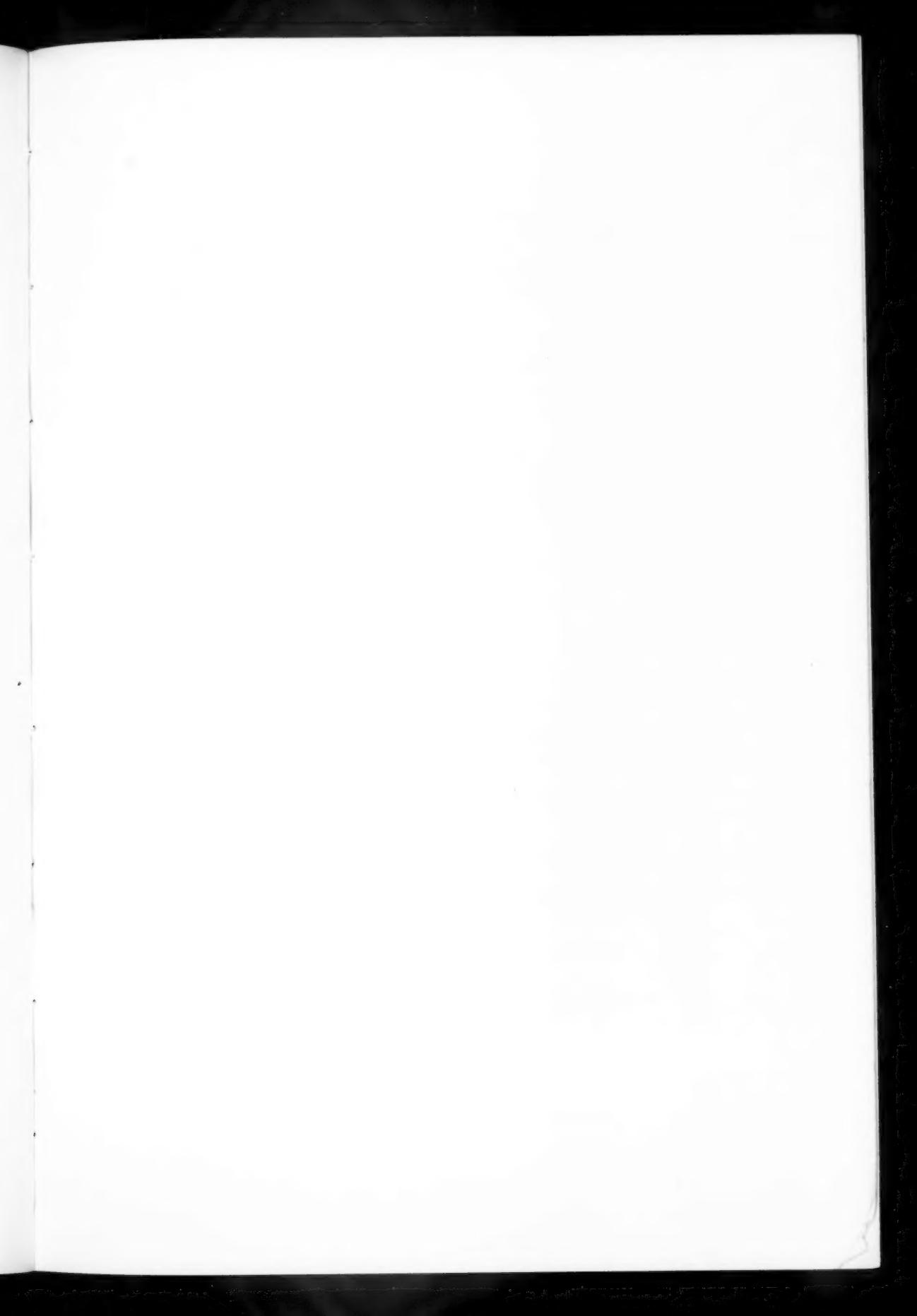
The subject of stammering has become of interest to physicians since it has been recognized that the stammerer is a psychoneurotic and suffers from a compulsion neurosis related to the spasmotic ties. Heretofore such treatment as stammerers received was at the hands of teachers of music and elocution who attempted to overcome the hindrance to speech by practice in rhythm. Occasionally good results were obtained but also spontaneous cures were not unknown; both evidently taking place in cases where the disorder was not deeply fixed in the personality.

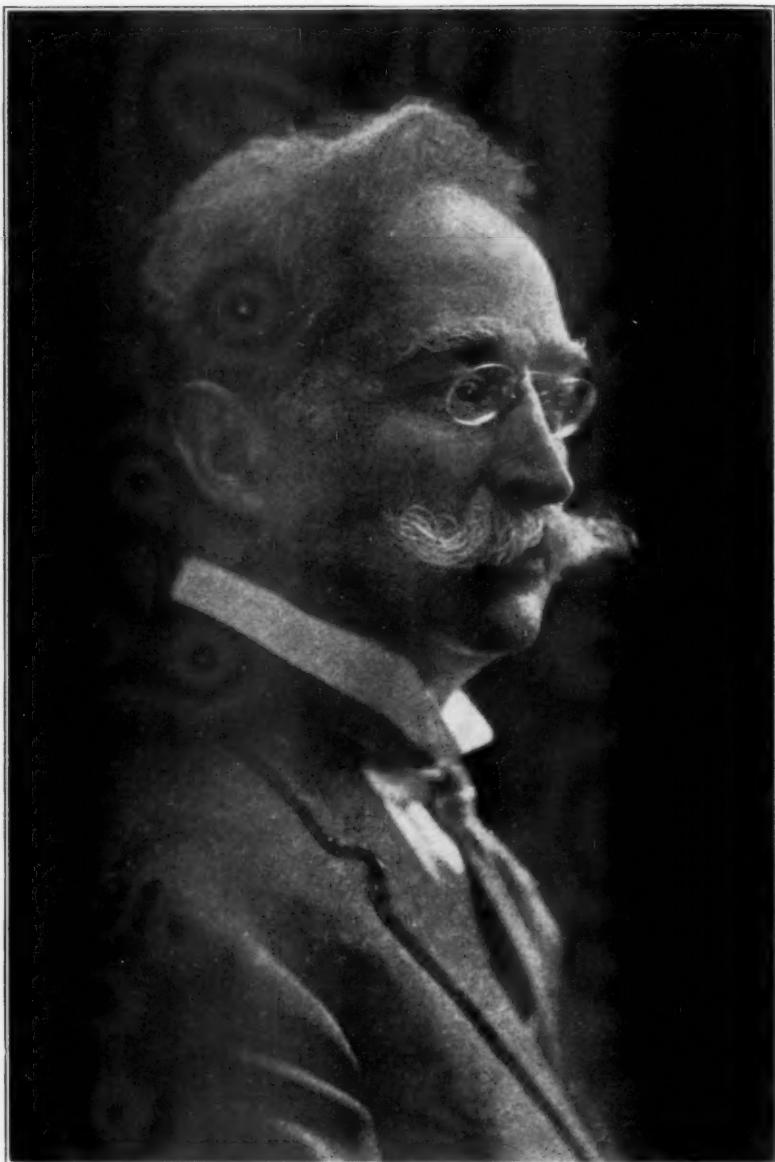
Dr. Coriat finds that stammering has its roots in infantile oral libido which continues as an adult gratification of nutritional and libidinal instincts and is more than a mere incoordination of the muscular apparatus of speech. It is a revolt against what Rank has called the weaning trauma. The sucking movements of the lips and tongue, the occasional grinding of the teeth, the spasm of the muscles of the jaw and throat and the interruption of breathing which takes place all point to a persistence of oral-anal-sadistic components of the pre-genital organization which remain essentially unchanged.

In the process of treatment by psychoanalysis the ego and libido development are recapitulated in the transference situation. The ego, freed from the domination of the resistance becomes educated to recognize the expressions of the active oral libido which are in opposition to the standards of the ego ideal and to evaluate them without repression or resistance. The ghost is no longer fearsome when it is discovered to be only a harmless scare crow.

The only criticism of Dr. Coriat's monograph is its brevity. It is to be hoped that a later edition will contain studies from some of his case material to illustrate the various mechanisms which are only stated didactically. It is an excellent contribution to a subject which has been too long neglected by physicians.

HUTCHINGS.





DR. GUSTAV SCHOLER
1851-1928



TRIBUTE TO DR. GUSTAV SCHOLER

By Dr. Robert Abrahams, President, Board of Visitors,
Manhattan State Hospital

The Board of Visitors of the Manhattan State Hospital, Ward's Island, mournfully records the loss of a highly esteemed associate, Dr. Gustav Scholer. Dr. Scholer was a member of the Board for twenty years. He had deep interest in the welfare of the patients, in the welfare of the officers, attendants, and employees, and in the sanitation, beautification and care of buildings and grounds.

For many years Dr. Scholer was on the front line in the movement for fire prevention on the Island. The perfect system of fighting and preventing fire which exists today on Ward's Island, is largely due to his persistent efforts.

Dr. Scholer displayed great valor and self-sacrifice during and after the terrible fire in the hospital, which occurred in 1923 and resulted in the destruction of more than a score of lives. Day and night, with little food or sleep, he was watching the treacherous, smoldering ruins to prevent further loss of life, limb and property.

Dr. Scholer was born in Germany 77 years ago. His father was a printer and shared the trials and turbulence of the memorable period of 1848. The father intended that his son, Gustav, should succeed him in the printing trade. However, on the arrival of the family in America, Gustav Scholer turned his attention to the study of medicine, and in 1885 he received his medical degree from New York University.

Dr. Scholer served as deputy coroner in New York City for several terms. Later he was elected coroner and served with credit, honor and dignity. During his term of office the dreadful Sloeum disaster occurred on the East River. Hurrying to the burning ship packed from stem to stern with little children, he plunged into the fatal flames and rescued many lives. Dr. Scholer was the hero of the day.

President Harrison, in 1890 appointed Dr. Scholer examining physician in the pension office of the Treasury Department.

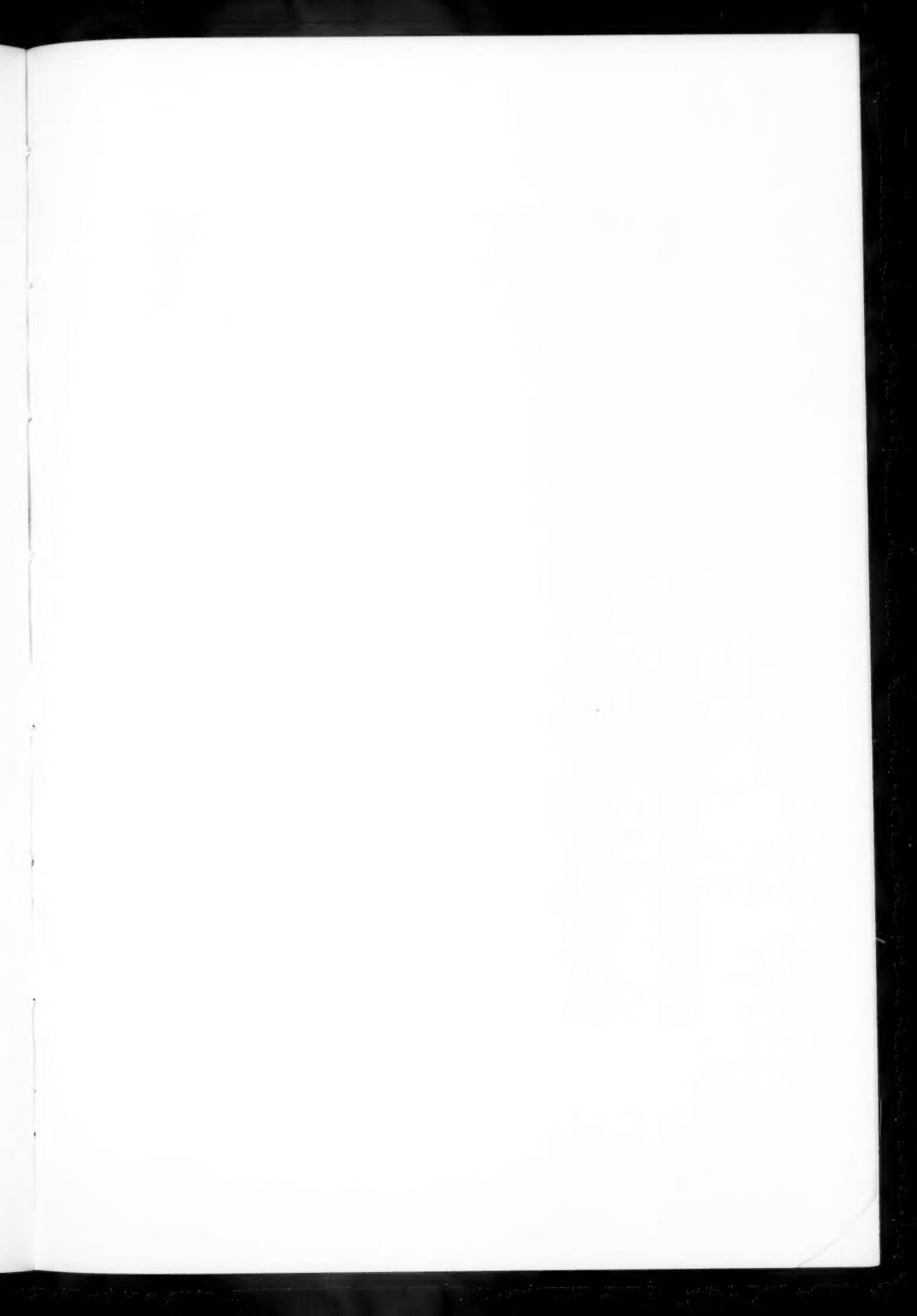
For forty years Dr. Gustav Scholer was a leading spirit in the cultural and social life of the large and influential citizenry of German-Americans residing in New York. He was president of the Arion Society and founder of the New York Turn Verein.

Dr. Scholer's lively interest in civic matters resulted in his election as president of the West Side Taxpayers' Association five times in succession.

Dr. Scholer during his busy life counted among his intimate friends men

of the caliber of Carl Schurtz, Abraham Jacobi and William Steinway. His friends and admirers among the poor and the lowly were legion. None of the latter played on the chords of his heart without producing a responsive tune of deep sympathy.

Our friend has joined the choir invisible, but the good deeds of his life were not interred with him, but will forever remain with us as a token of love, as a symbol of reverence.





DR. ETHAN A. NEVIN
1870-1928

TRIBUTE TO DR. ETHAN A. NEVIN

Dr. Ethan A. Nevin was born at Helena, New York, on December 18, 1870, growing up on a farm and living the life of a hard-working country boy. His family had been prominent in St. Lawrence County since the first settlement of that region. The men of his family had all been of striking appearance, tall and broad shouldered, as was the Doctor, himself. He once stated that he had been frequently accosted by strangers on railroad trains and in other public places in that part of the State, and asked if his name was not Nevin, as he so closely resembled others by that name.

His preliminary education was obtained in the schools of Helena and Winthrop, New York. Feeling that medicine was to be his career, he entered the Medical School of the University of Michigan, graduating in its class of 1896.

After serving an internship and having two years of private practice, he accepted a position as assistant physician at the Manhattan State Hospital on Ward's Island. From Ward's Island he was transferred to Kings Park, and in 1902 became an assistant physician in the St. Lawrence Hospital at Ogdensburg, where he remained until December 18, 1909 when he was appointed superintendent of the State School for Mental Defectives at Newark, New York.

Dr. Nevin always had a considerable interest in pathology and in the fall of 1906 he took a special course of instruction at the Psychiatric Institute under Dr. Dunlap, and afterwards had charge of the pathological laboratory at Ogdensburg where he performed the work in addition to his administrative duties.

His death occurred suddenly at Baltimore, Maryland, on October 10, 1928.

Dr. Nevin was a splendid type of a Christian gentleman, devoted to his parents, his wife, his children, his friends and the institution which he so well served.

It always seemed to us who knew him best, that he had inherited with the name of Ethan Allen many of those rugged qualities that had made the Green Mountain Ethan Allen a name unique in history.

CHARLES S. LITTLE, M. D.,

R. H. HUTCHINGS, M. D.,

O. H. COBB, M. D.,

Committee.

* Submitted and adopted at Quarterly Conference at U. S. Veterans' Hospital at Northport, L. I., N. Y.

SIGNIFICANCE OF INCREASE OF HOSPITAL CASES OF MENTAL DISEASE

In a letter to the *New York Times* of December 2, 1928, Paul O. Komora, assistant secretary of the National Committee for Mental Hygiene, gives an optimistic view of the increase of patients in mental hospitals. Taking his text from the article on the "Expectation of Mental Disease," which appeared in the October, 1928, QUARTERLY, he writes as follows:

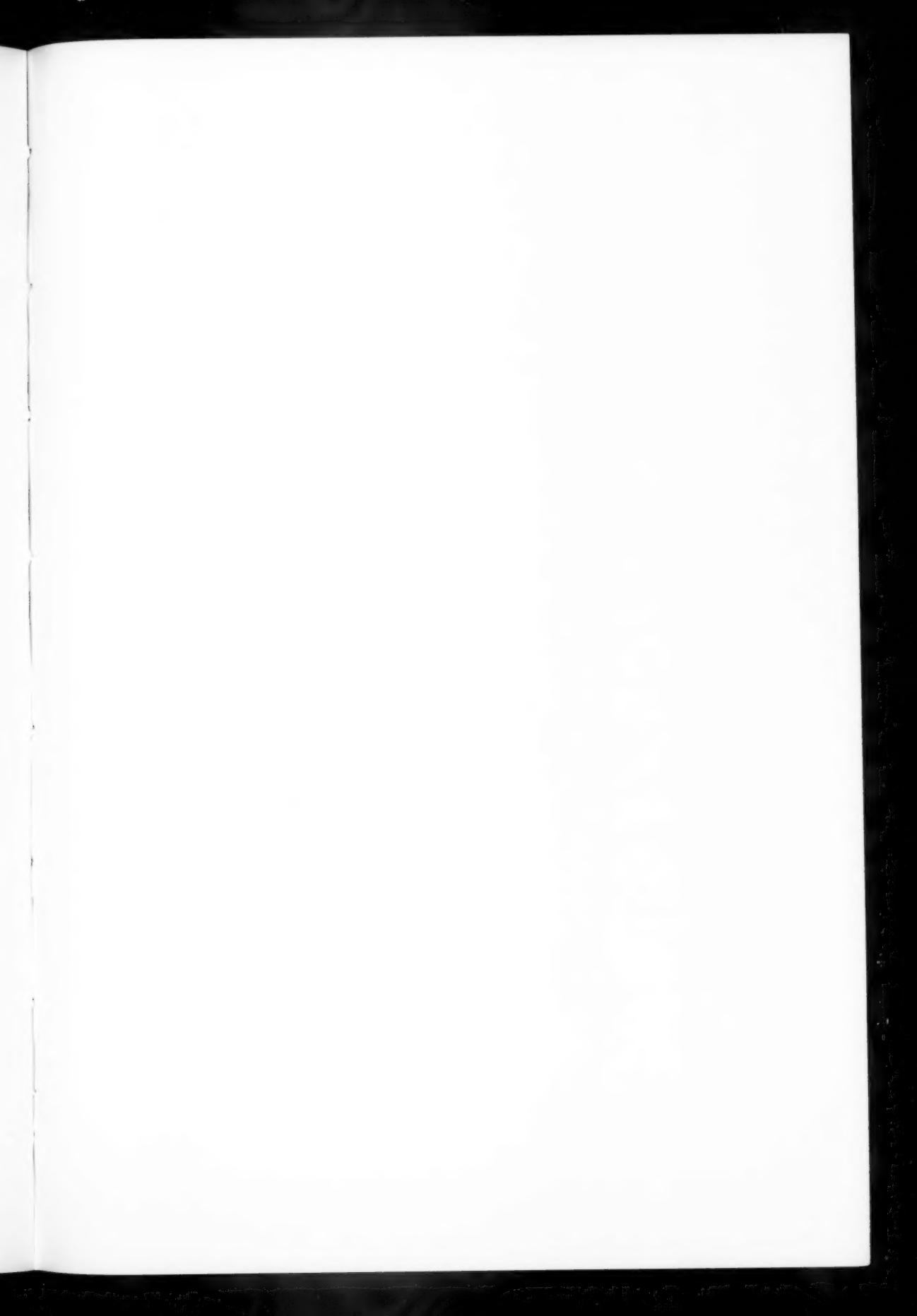
The New York State Department of Mental Hygiene recently made public the results of a study of mental disease expectancy according to which approximately 4½ per cent of the persons born in New York State under existing conditions "may be expected to succumb to mental disease of one form or another" and become patients in hospitals for the mentally afflicted. This means that one person out of each twenty-two of the population is a patient in a mental hospital some time during his or her lifetime.

May I point out a significant aspect or two of these figures with regard to the national problem of mental morbidity? Approximately 75,000 new patients are admitted to the mental hospitals of the country every year. At this rate we may expect, with all the assurance of a life insurance mortality table, that 1,000,000 men and women now going about life's business will have become mental cases of more or less institutional severity in the next fifteen years.

These figures impress us all the more when we learn that there are as many patients in the mental hospitals of the country as in all other hospitals combined. It is not the question whether mental disease is actually on the increase but the fact that there are so many persons requiring treatment for mental conditions that is significant; the fact that mental disease is now recognized as a major health problem that should be dealt with as vigorously as tuberculosis, cancer or any other wide-spread disease. This is a victory for the mental hygiene movement, which sensed the importance of the problem of mental disease twenty years ago and has labored ever since to bring it to the surface.

The overcrowding of our State hospitals for mental disease is a distressing concern of State governments throughout the nation, an index of the seriousness of the problem, but it is also a hopeful sign. It is an indication that people are beginning to think about insanity in terms of disease amenable to treatment and in many cases just as curable as bodily disorders. We are adopting a more rational attitude toward the subject, with the result that there are now more known cases of mental morbidity than before.

The rapid multiplication of out-patient mental clinics, the development of psychiatric social service, and the extension of community organization





ARCHITECTS' SKETCH OF NEW RECEPTION BUILDING AT
ST. LAWRENCE STATE HOSPITAL, OGDENSBURG, N. Y.



and extra-institutional facilities for the treatment of mental disorders at home, all reflect a healthy change in the public point of view toward a subject that used to be discussed in whispers. There is less disposition to keep secret the fact that there has been a mental breakdown in the family, and more of an inclination to seek advice and treatment in the early stages of mental disease. This is all to the good, even with mounting hospital admission rates, because we are bringing the problem out into the open where better provision can be made for dealing with it.

The campaign of education is beginning to tell, and it is confidently hoped that in time we may bring mental diseases under control to a point comparable with the control of, say, tuberculosis, thanks to improved economic conditions and the work of the public health movement. The warfare against disease is being extended to include all the enemies of mankind, and it is the hope of the American Foundation for Mental Hygiene, which was recently organized to secure greater resources for the support of those who are fighting the battle against mental disease, that this last spectre will some day take its place among those that have lost forever their power to darken human lives.

NEW RECEPTION BUILDING AT ST. LAWRENCE STATE HOSPITAL, OGDENSBURG, N. Y.

The new reception building of the St. Lawrence State Hospital will be a three-story basement and attic structure 383 feet, 10 inches long by 46 feet, 10 inches wide, of fireproof construction, with face brick exterior, slate roof, hard plaster and face tile interior walls. The floors will be of concrete covered by battleship linoleum or tile. The building is planned to accommodate 106 patients, 53 of each sex, in 56 single rooms and 10 5-bed dormitories. The wards with adequate toilet, lavatory and bath facilities are located on each floor with day-rooms and sun-verandas toward the central part of the building. Attached by corridor in the rear is a one-story kitchen having food elevators to the dining rooms on the second floor of the main building. When completed and equipped the building will be well adapted for its purpose with administration center and complete treatment facilities including X-ray, electro-therapy, hydrotherapy, occupational therapy, diatherapy rooms and general diagnostic clinic rooms.

The building will be on an elevation and so placed that each room will daily have the maximum of sunlight and from practically every window there will be a view of the beautiful St. Lawrence River and Canadian shore. Ample space is being arranged for recreation lawns, etc.

The construction work is being done by the National Fireproofing Company of Cleveland, Ohio, and is to be completed November 1, 1929.

ANNIVERSARY DINNER IN HONOR OF DR. WILLIAM A. WHITE

On October 1, 1928, Dr. William A. White completed twenty-five years as superintendent of St. Elizabeths Hospital, Washington, D. C. At that time a group of employees and patients at the hospital gathered to pay tribute to him. On November 10 his friends and colleagues throughout the country, gave him an anniversary dinner at the Wardman Park Hotel, Washington, D. C. There were 339 subscribers to the dinner and 322 actually present. Dr. Lewellys F. Barker of Johns Hopkins Hospital, acted as toastmaster. Dr. Harry W. Mitchell, who was to have been the first speaker, was unable to be present on account of illness. Mr. Frank Hogan, a prominent lawyer of Washington, and Dr. Smith Ely Jelliffe spoke at some length enumerating Dr. White's achievements. Letters, telegrams, and cables were read from all parts of the world congratulating Dr. White. At the conclusion of the speeches Dr. White was presented with a suitably inscribed watch, the gift of the subscribers of the dinner. Dr. White replied in his usual inspired vein describing the progress of psychiatry during the quarter of a century he has been associated with St. Elizabeths Hospital and thanking everyone concerned with the celebration.

THE AGING PROCESS

The issue of the New York State Journal of Medicine for November 15, 1928, includes a reprint of an address on the pathology of the aging process by Dr. Alfred Scott Warthin, professor of pathology and director of pathological laboratories in the University of Michigan. As much of current thought in public health activities is concerned with the prolongation of life and the possible increase in the span of life this article should prove of great interest to specialists in mental hygiene and public health.

The author states that the human organism may be viewed as a machine for converting inert materials into protoplasm, with the concomitant production of heat and vital energy. This constitutes the vital functions of nutrition, metabolism, motility, irritability and reproduction. The essential goal is the perpetuation and evolution of the species. The duration of existence is determined by the time necessary to accomplish racial preservation and progress. The time needed to accomplish this is the normal span of life; its conclusion is biologic death. But there is also pathological death which occurs prior to biological or natural death, as a result of unfavorable factors in the environment. Actually few individuals achieve biological death.

The life of an individual may be represented by a curve. The ascending

part represents the growth period; then comes a short plateau representing maturity and finally a descending part representing retrogression or involution. The period of growth begins in uterine life. The fertilized egg shows great energy in growth. This is continued into the extra-uterine life. The different organs, however, exhibit varying rates of growth which cause changes in the bodily proportions. The period of growth continues until the age of sexual maturity which is reached somewhere between 30 and 50 years of age. The boundaries are not fixed and variation is great when the reproductive period have been passed the individual is no longer necessary in the scheme of evolution. He then passes through a stage of involution of the energy machine, and a weakening of his vital functions.

The growth and subsequent decline of numerous body characters are described in detail. Some of these, such as height, weight, skeleton, calcification, teeth, eyesight, hearing, hair, etc. are exhibited in an interesting graphical manner. Purely biologic or senile death is attributed primarily to cardiac defects. The vital function of circulation is said to cease before the respiratory or nervous functions.

What conclusions may be drawn? "For those who live to their biologic limit age cannot be escaped. Nor can it be deferred. Nor is rejuvenescence possible. The deferring of old age, the rejuvenating of the senescent individual is but idle and foolish talk . . . Happy is the senescent who can approach his inevitable end with normal cerebral rate of involution, still capable of intellectual pleasures, and the mature contemplation thereof, and meet a speedy release before the unhappy days of second childhood are upon him."

NOTES

—Dr. Otto Rank of Vienna and Paris is giving a series of six lectures on the general topic, "What Is Truth", under the auspices of the New York School of Social Work. The lectures are given on Monday evenings beginning January 14, and ending February 18, 1929.

—The recently organized Albany County Mental Hygiene Society is conducting a series of mental hygiene lectures in the lecture room of the Albany Historical and Art Society. The lecturers in the course are Dr. George K. Pratt, Dr. William Healy, Dr. Arthur H. Ruggles and Dr. Douglas A. Thom.

The president of the society is Dr. Charles H. Johnson and the secretary, Dr. Clinton P. McCord.

—The Division of Publication of the Commonwealth Fund announces a revised and enlarged edition of the Directory of Psychiatric Clinics for Children in the United States. The original edition issued in 1925 met an urgent need. The new volume is even more serviceable. The directory lists the clinics by state and describes institutional and community resources in mental hygiene, both state-wide and local.

—On Monday evening, January 7, 1929, Governor Roosevelt sent to the Senate the nomination of Dr. Frederick W. Parsons to succeed himself as Commissioner of Mental Hygiene. Being a reappointment, the nomination was immediately confirmed. Under the Mental Hygiene Law, the Commissioner holds office until the end of the term of the Governor by whom he is appointed.

—The State of New Jersey has purchased 509 acres at Hillsdale, Monmouth County, through the State Board of Control of the State Department of Institutions and Agencies for the construction thereon of a \$4,000,000 state hospital for the care of the insane. The insane hospitals at Trenton and Morris Plains have been overcrowded for several years. The new hospital, it is announced, will have a capacity of 2,000 patients.

—The Department of Economics of Harvard University with the assistance of a grant from the Milton Fund, is seeking first hand information from 15,000 leading business men in the United States as to the reasons for their success. Data are being gathered regarding the social classes from which business leaders are recruited, the extent of their education, and the circumstances of their early business career. It is hoped that the answers will throw light on the relative importance of superior native ability and superior advantages. The study is directed by Professor F. W. Taussig and C. S. Joslyn of the Department of Economics.

—Psychiatrists and psychologists will be interested in the announcement of a motion picture version of Pavlov's famous experiments on the conditioned reflex. The films were made in Russia and are now being distributed in the United States by the Amkino Corporation of New York City, who represent the Savkino Corporation of Moscow. It appears that the picture is being produced as a non-commercial venture in the popularization of certain aspects of modern experimental psychology.

—Dr. Howard W. Potter, who has held the position of clinical director at Letchworth Village since February 1, 1921, has been appointed assistant director of the Psychiatric Institute and Hospital. Dr. Potter will assume the duties of his new position on January 1, 1929. In addition to his service at Letchworth Village, Dr. Potter was formerly a member of the staff at the Hudson River State Hospital and at the Bloomingdale Hospital, White Plains, N. Y.

—According to an Associated Press Dispatch, Russia has encountered a serious problem in caring for her insane citizens. There are said to be only 77 asylums in the whole country, with accommodations for about 21,000 patients, while the public health authorities say that there are five times that number of insane persons in the country who need hospitalization. Money for new buildings and to repair existing institutions is hard to obtain and the Government finds it difficult to retain the 11,000 employes who care for the patients.

—Dr. William H. McCastline, Medical Officer of Columbia University, said in his annual report to President Nicholas Murray Butler, made public November 17th, that one of the university's most difficult problems is that of mental diseases. "General education," he said, "based upon the needs of the average student, does not move the kinks from an abnormal mind." Most mental cases, he pointed out, need special training and universities are not the appropriate places for them to receive the highly specialized supervision demanded by their peculiarities.

—The Mental Hygiene leaflet No. 6, entitled "Do Children Inherit Bad Conduct?" contributed by Dr. Sanger Brown, Assistant Commissioner of Mental Hygiene, has been commented on very favorably in the newspapers of the State. In answer to the question, Dr. Brown wrote that "what a child becomes depends as a rule more upon his home, his opportunities, his education and various other influences, than upon his inheritance." The New York Sun said that in these conclusions the psychiatrist confirms the findings of common observation and that it is within the knowledge of every man, if he uses his eyes, that boys and girls differ from their fathers and mothers

in vices as in virtues. Bruce Barton, a well known writer, in an article in the January issue of *Good Housekeeping*, quoted Dr. Brown's conclusions.

—Two important announcements were made at the 19th annual meeting of the National Committee for Mental Hygiene. The first related to the raising of an endowment fund of \$1,000,000 to finance the activities of the American Foundation, described by Mr. Clifford W. Beers as "a coordinating, guiding and assisting agent to worthy groups or individuals in the United States who engage in research and experimental work in the development of mental hygiene. It will be a super-advisory body to the present National Committee but will be able to extend the scope of its influence and assistance far beyond the limits possible to the smaller body." A bequest of \$50,000 has been received, and \$100,000 have been pledged upon the raising of an additional \$900,000.

The second announcement described plans for the first International Congress on Mental Hygiene to be held in Washington during the first week of May, 1930. The above bequest of \$50,000 will be used to underwrite the expenses of the congress.

The present officers of the National Committee for Mental Hygiene were re-elected. They are: Dr. Charles P. Emerson, president; James R. Angell, Rt. Rev. Doctor William Lawrence, Dr. William L. Russell and Dr. Bernard Sachs, vice-presidents, Frederic W. Allen, treasurer and Clifford W. Beers, secretary.

COUNTERIRRITATION

Counterirritation is a term applied to the use of substances irritating to the surface with which they come into contact and is widely employed for the purpose of influencing morbid processes in more or less distant parts or of affecting the general system. According to Hare ("Practical Therapeutics", 1927) counterirritation is in reality based on sound physiological laws, resting as it does upon reflex action, or the conduction of a nervous impulse to a center, which, when so stimulated, sends out an impulse to that part of the body which is diseased. Physicians the world over have long considered antiphlogistine as the logical counterirritant, first, because of its marked decongestive action in cases of inflammation and congestion, second, because of its efficacy in causing the absorption or removal of inflammatory deposits after true inflammation has ceased, and, third, because of its distinct analgesic and thermopenetrative properties.

A VICIOUS CIRCLE

and the proper point for its attack

IS CONSTIPATION a cause or an effect? This question is occupying much attention among physicians today, for constipation and all the symptoms surrounding it continue to occupy as large a place as ever in human life and in the doctor's daily practice.

"Constipation is like a headache," argues one authority, "simply a symptom of some underlying physical error or improper habit of personal hygiene." Worry, inadequate exercise, faulty eating habits, or the habitual use of laxative drugs—these are all influences which produce intestinal impairment.

But if constipation is an effect, it is also a cause. It often causes indigestion, heartburn, bad taste, acid eructations, suppurative diseases of the skin. Careful investigators have concluded that chronic cases of constipation almost invariably produce serious affections of the nervous system—irritability, headache, insomnia, melancholia and what perhaps might be termed *mental stasis*.

CAUSE and effect—action and reaction—a vicious circle. Somewhere the physician must step in and break it up. The authorities cited above point out that thorough investigation of the intestinal tract is essential. The treatment for constipation,

they assert, is often all that is required to correct neurasthenic conditions—"A proper hygiene and therapy of the intestinal tract will often be the deciding factor in differential diagnosis."

For a laxative that does its work easily and naturally many physicians recommend fresh yeast.

Yeast has these advantages: It tends to soften the fecal masses and to increase their bulk and moisture. It diminishes putrefaction and gently stimulates the bowel muscle to perform its function—precisely opposite to the effect of cathartics.

WHILE investigation has shown, in the words of one authority, "that intestinal antiseptics diminish the ability of the intestine to destroy bacteria" the action of fresh yeast is just the contrary. Eaten daily in sufficient quantity, yeast combats the development of hostile types of bacteria in the intestine.

The action of yeast in increasing the number of white cells in the blood accounts for greater resistance and the well known efficiency of yeast in the treatment of acne, boils and other skin diseases.

Physicians usually suggest three cakes daily, one before each meal or between meals. Yeast may be eaten just plain or suspended in milk or water—hot or cold—or any other way the patient prefers. For constipation it is most effective when dissolved in hot (not scalding) water, one cake before each meal and at bedtime.

A copy of the latest brochure on yeast therapy containing a bibliography of articles and references on the subject will gladly be mailed on your request. The Fleischmann Company, Dept. 327, 701 Washington St., New York City.
